THE HEALTH MAGAZINE

HYGEIA

25c
1939
NOVEMBER

HEALING the SICK

See page 977

The man who was immune to Gold Fever

IN 1849, all orderly life in California was turned topsy-turvy by the discovery of gold.

Carpenters left their saws, and farmers their plows, to join the mad rush. Ships rotted at docks as their crews succumbed to that most contagious of epidemics—gold fever.

But through it all, a newly arrived young man named Justin Gates remained unmoved. He preferred to keep on compounding drugs in his little Sacramento pharmacy, turning a deaf ear to the ceaseless talk of quick fortunes.

Then came news which, to Gates, was far more startling than any gold strike. It was news of sickness and suffering in the mining camps; news of doctors valiantly fighting the effects of bad sanitation, without sufficient drugs or adequate remedies.

Soon, rumbling into the remote, stricken mining camps, came pharmacies on wheels—wagons equipped by Gates with a full supply of necessary drugs and a competent pharmacist in attendance. And as the battle against disease was won, doctors and miners alike blessed the name of Gates.

The story of Justin Gates, pharmacist, is worth telling—for it illustrates well the unchanging ideals of his profession.

Today's pharmacist is motivated by the same desire to serve, the same devoted concern for the health of his community. He, too, in choosing pharmacy as a profession, has put aside all thoughts of an easy road to riches. He, too, finds his chief reward in the knowledge that he is doing a vital work. Like the physician whose aid he is, he must be on call virtually day and night. He must pursue a course of study that never ends, for the march of medical science is constantly bringing new drugs to his shelves.

On the occasion of National Pharmacy Week, this Company pays tribute to an unselfish and indispensable profession.

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NATIONAL PHARMACY WEEK, OCTOBER 22 TO OCTOBER 28

Dedicated to a greater appreciation of the ideals and accomplishments of professional pharmacy

Parke, Davis & Company

DETROIT, MICH.

The World's Largest Makers of Pharmaceutical and Biological Products

BABIES SUPERVISED BY PHYSICIANS ARE BETTER BABIES

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WHO'S WHO IN HYGEIA

EDWARD D. NIX, advertising executive and college lecturer, declares his interest in medical questions (on which he has written for HYGEIA from time to time) dates back to childhood medical contacts and to his family's and friends' more recent medical problems and adventures. Graduating from Washington University, St. Louis, in 1917, Mr. Nix entered advertising via a five year detour in the U. S. Infantry, the Oklahoma oil fields and a sales manager's desk. He lectures on advertising now at the College of Commerce of the State University of Iowa.

E. F. KOHMAN is the research nutritionist who is responsible for revealing the high vitamin content obtainable in canned foods. He has published some fifty articles in chemical, nutritional and other technical journals, besides those in HYGEIA. His work in the canning industry has taken him to all parts of the country, where he has been able to gather data first hand on growth of the many products put up in cans. Two years ago, he joined a large soup company to do research on the food products that go into their soups. Also at this time, Amos and Andy went on the radio for the same company, so now no one will ever be able to tell which of these important factors was responsible for the increasing consumption of soup!

The writing career of MARJORIE HOLMES MIGHELL began at the age of 17 months when she emptied a bottle of ink on a white linen tablecloth and scrawled a violent protest over the arrival of a sister who even then threatened to surpass her in size. She has done much radio work, including dramatics, announcing, writing and producing children's shows, but prefers free lance "authoring" because it can be done at home—"on the tablecloth" as it were, with one eye on her own petite lady.

HERMAN M. JAHR, M.D., writes of the subject around which he forms both his vocation and avocation: children. An Omaha physician, Dr. Jahr specializes in diseases of children; but he declares his most pleasant diversion from professional tasks is "watching kids at their various games, games not only in play, but in their individualistic reactions to life's problems in general." He is editor of the *Nebraska State Medical Journal* and of *The Bulletin*, official publication of the Omaha-Douglas County Medical Society.

HYGEIA

THE HEALTH MAGAZINE

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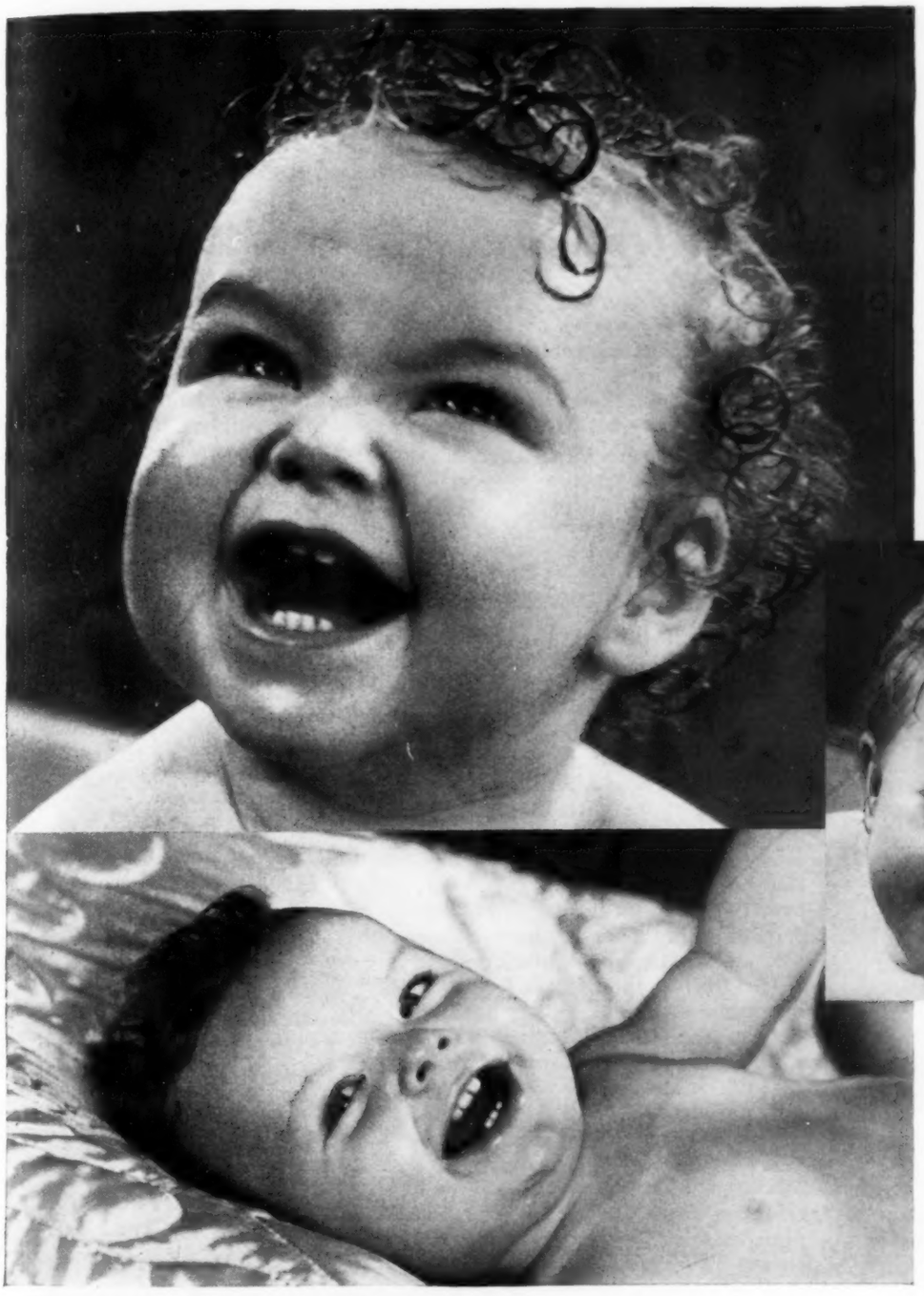


Build these first teeth properly and

permanent teeth are more likely to come in sound, well spaced. To help build good tooth structure your baby needs plenty of Vitamin D. So that he is sure to get enough, start today with Squibb's Cod Liver Oil and give it every single day all winter.

teeth— well-spaced, even

It's not so important *when* your baby's teeth come as the kind of teeth he has. To help build sound teeth, your baby needs an abundance of Vitamin D. Because clothing, ordinary window glass, fog may prevent sunlight from providing enough Vitamin D, thousands of healthy babies get Squibb's Cod Liver Oil every day.

six teeth—at 8 months!

The reason physicians and dentists stress the importance of properly spaced first teeth is that there must be plenty of room for the permanent teeth to come in uncrowded. Help your baby build a fine set of teeth. Every day, all winter long, see that he gets Squibb's Cod Liver Oil,

Vitamins guarded! You get full value!...Squibb's Cod Liver Oil supplies another important factor—Vitamin A. This aids in promoting growth and *in establishing resistance of the body to infections in general*—if baby's regular diet does not provide enough and his body reserves of this factor are exhausted. Squibb's Cod Liver Oil contains more than twice as many Vitamin A units and three times as many Vitamin D units as cod liver oil which just meets U. S. Pharmacopeia minimum requirements. Get full value—specify Squibb's! At any good drug store... *The priceless ingredient of every product is the honor and integrity of its maker*

SQUIBB'S Cod-Liver Oil

LETTERS FROM *Readers*

Hearty Laugh

To the Editor:

The article in the August HYGEIA on "Prenatal Care for Fathers," by Edgar Guest Jr. was a most welcome light touch in a usually serious magazine. And the illustrations by "P.H." are priceless. Why not others like it—for instance, on "My Operation" or "Modern Brats"? The possibilities are limitless.

What better way can HYGEIA promote good health than by giving us all a hearty laugh now and then—even at our own expense?

PETER LAWRENCE

New York City

▲

This Modern Life

To the Editor:

I have been very much interested in reading accounts of public lectures by prominent physicians on the nerve strain in the terrific pace of modern life of the American people and the doctor's prediction of the dire consequences—insanity for the next generation unless there is an *immediate* simplifying of the American life. HYGEIA has much to offer every one, and it should be in all homes.

NANNIE K. ELLIS

Roanoke, Va.

▲

Inclusion of Harelip

To the Editor:

It seems to me a mistake to include harelip with the grave familial defects of hemophilia and otosclerosis which, if present in a family, would permit marriage "provided they forego parenthood." This was done in "Who Should Not Marry?" in the October HYGEIA.

In Brennemann's Pediatrics, Dr. Vilray P. Blair states of harelip that "there is a fairly high average of familial occurrence, but the incidence of occurrence is not high enough to advise against it (i. e. having more children if one child has been born with harelip) unless the parents are especially obsessed against the defect."

MILDRED VAN CLEVE, M.D.

Redlands, Calif.

▲

Kudos on Poem

To the Editor:

I have again found in HYGEIA something which has particularly pleased me, and I wish you to know the same.

The poem, "Mending Nets," by M. Phelps Johnston, has beautifully expressed for me a feeling I have wished to share with others for a few years past. As a man who has found his "nets" to mend after having been despondent a few years over the apparent futility of his life, I think I am more contented than the average healthy mortal.

If it is available, I would greatly appreciate a copy of this page of the October HYGEIA. I shall enclose a self-addressed envelop; but since I would like this for framing, if you could send it without folding it, I should appreciate the service.

I would also like to know if Mr. Johnston is alive, and, if so, how I might reach him by mail. I shall appreciate any service you may be to me in regard to Mr. Johnston and his poem.

DR. IRWIN A. TAYLOR

Durand, Wis.

>> *Mr. Johnston is living.*

▲

Driving Lessons

To the Editor:

Many of us here read HYGEIA. We are greatly impressed with your coverage of the health field. In fact, we anticipate the time when our own educational publication will cover the safety education field as completely as HYGEIA covers your field.

We are concerned, however, about "His First Driving Lesson" which appeared in the August issue. Is it a very real story? Is so much conversation carried on in operating rooms? For example, one of the nurses is supposed to have said, "She was a beautiful girl, too. I knew her in school. . . ." Much more important, in our judgment, are the final paragraphs. I won't debate the relative merit of positive versus negative instruction. I do want to disagree, however, with two statements near the end of the story, namely, "Police will teach you the traffic laws when you apply for your driver's license," and "Don't try to do the other driver's thinking for him." There are 40 million drivers in this country. The examinations given them last only a very limited time, in some cases not more than four or five minutes. We do not believe these drivers can be taught about the traffic laws while they are taking examinations of this type.

We believe also that the good driver does give a great deal of attention to other motorists. He needs to anticipate, at intersections for example, what other drivers are going to do. Perhaps this would not be true if all drivers had had exactly the same degree and type of instruction, but certainly it is true now.

W. H. CAMERON, Managing Director,
National Safety Council, Inc.
Chicago.

▲

Bacon for Babies

To the Editor:

In the October issue, there is a Question and Answer captioned "Feeding Bacon to Babies." May I add that I am particularly happy to note the unified opinion of the authorities consulted. About eighteen months ago, I had the privilege of caring for a young child who inhaled about one gram of bacon into the right bronchial tree, necessitating the services of a bronchoscopist to remove it in order to prevent what might have been a fatal outcome, had it gone unrecognized.

I am glad to see that the fad is dying out. It was fraught with danger, as this case clearly demonstrated.

HENRY A. HARTMAN

Kankakee, Ill.

Plaudits

To the Editor:

Words are inadequate to express the praise of my family for HYGEIA. This magazine should be in every American home, second only to the Bible.

J. M. PYLE

Cincinnati

To the Editor:

I read your magazine with interest. Many of the articles are so worth while! It seems a shame that more of the public do not know of its existence. It was through chance that I learned of its publication.

W. A. WEARY

New York City

To the Editor:

I have taken HYGEIA off and on for some time. I think it greatly improved. It should be in every home. In a day when "panaceas" for every human ill imagined or anticipated are heralded by radio and press advertising, we need the truth that makes one free, free from the fear knocking on the doors of the minds of our gullible people.

A minister is not a doctor of sick persons; yet the mind and spirit interweave with the physical. He is asked for advice and expected to give it. A HYGEIA magazine entering his study can make him better equipped to do his work in a more intelligent way.

I hope you will publish more articles that will help in this type of ministry by even the lay people. There is power in an article that will produce auto-suggestion toward improved health. Hope is a transferable thing. Give us hope and confidence that we may pass it along. This will be the Gospel—the "Good News" so many need.

I am enthusiastically yours for more readers,

REV. ARTHUR A. RICHARDS

Franklin, N. H.

To the Editor:

You bet your sweet life I want HYGEIA. I wish I had had it years ago. I'm only 84, not one foot in the grave yet, and I'm depending on HYGEIA to keep them out of that trench.

CHAS. A. FISKE

St. Paul, Minn.

To the Editor:

We are always eagerly looking forward to your magazine, which we find interesting and put to good use. When we have finished with it at home, we put it into the Student Center, a place of study and recreation conducted by the Mission near the local high school. When the next number of the magazine comes, the old one is passed on to the Student Center in Catbalogan, the capital of the province of Samar. The high schools in both places have over a thousand enrolment, and the students find your magazine helpful for their assignments in civics and hygiene.

REV. E. J. FREI

Tacloban, Leyte, Philippine Islands

To the Editor:

To me, HYGEIA is one of my most interesting and valuable magazines. I often lay one in my room for tourists. It seems to me this magazine is not placed in homes enough. I live in a town of about 8,000 and have never seen it in a single home besides my own, and seldom on tables in doctors' offices.

MRS. JEAN W. HUNT

Pulaski, Va.

H. Armstrong Roberts

The trees have dropped their last foliage, the clouds their first snow. The farmer is hauling his last autumn harvest—fodder to feed the stock.

"Oh, if winter comes, can spring be far behind?"

LIFE-SAVING BLOOD

MOST dramatic among the procedures of modern medicine, particularly from the point of view of the average man, is the transferring of blood from one person to another. Today the value of this procedure is so definitely recognized that rules and regulations have been developed in hospitals and in various communities to make certain that plenty of good blood will be available for those who require it when it is needed.

The idea of transferring blood from one human being to another is not new. It was first tried in France in 1667, revived in London around 1820 and again in Germany between 1860 and 1880. In those days the transference of blood was frequently fatal, but now we know why those fatalities occurred. Modern methods of investigation have taught us how to transfuse blood safely. Once safety became established, the uses of blood transfusion have multiplied many times.

Now there are a lot of superstitions that ought to be cleared up first. The transferring of blood from one person to another does not in any way influence the character of either the giver or the receiver. They do tell of a man who had a severe hemorrhage and who had repeated transfusions of blood from a Scotchman. Although he paid $100 for the first transfusion, he had so much Scotch blood by the time he reached the tenth that his payment had gone down to $10 for each injection. But blood does not carry character. Our minds and our characters are matters of heredity and environment, most closely associated with the brain. Blood is a distinctive tissue, and sometimes the blood of one human being is not at all suited to another.

First let us consider some of the reasons for transferring blood. Most often, transfusion is used in emergency surgery for hemorrhage and for shock; next often, it is used in the treatment of certain disorders of the blood itself. When people have bled frequently and lost considerable quantities of blood, they need blood promptly. Under such circumstances, the taking of blood from another individual and the transfer of that blood directly into the veins of the person who is anemic is well established as a useful procedure. In certain diseases there is uncontrollable bleeding as, for example, in those cases of hemophilia that are hereditary, like that which affected the little czarevitch of Russia and that has affected for centuries the kings of Spain. There are other diseases of the blood, however, which also bring about difficulty in clotting the blood, and in these conditions a transfusion may be of temporary benefit; in fact, it may be life saving because it gives time for study and control of the case, whereas death would otherwise come too soon.

Today many a person who needs an immediate surgical operation is hardly in a state to undergo a surgical procedure because of the effects of disease and the loss of blood. In such cases a transfusion of blood before the operation may permit the life-saving operation to be carried out. Then, too, the blood is the carrier of those factors in our bodies which enable us to resist infection. Sometimes when a child is unable to resist an infectious disease, sometimes when invading germs seem about to overwhelm the body, the transfusion of blood from a person who has recovered from a similar disease may bring about a change in the body which sets up resistance and saves the life.

As I have already hinted, the blood of different persons differs in its qualities. It would be fine if we could take blood from animals and transfer it to man; but unfortunately, the blood of animals cannot be put into the veins of human beings. Sometimes when the blood of one human being is added to that of another, factors are present which cause the red cells to dissolve. In other cases, substances are present which cause the red blood cells to clump together. In other words, these two bloods are incompatible. But nowadays we have learned that the blood of various human beings can be divided into groups and that certain groups are compatible, while others are not.

Since blood transfusion is an emergency procedure, it is desirable to have ready at all times persons of the right blood group ready to give their blood to those who need it. Simple tests are made on small quantities of blood which establish with certainty the group to which the person belongs.

In the past, radio has frequently been of great service as a means of securing volunteers who hasten to hospitals in order to give their blood. Now it is proposed to organize this service on a large scale in cities throughout the country. The radio and the newspapers are going to help to get lists of people of known blood groups who are ready to give small quantities of blood in order to save human life. Already in this country many hospitals have lists of persons always available for blood transfusion. In some places blood donor bureaus have been set up which keep lists of persons who are available. In other communities the American Legion, the police and fire departments cooperate in this work. In the large scale plan which is now about to begin to function, every one can participate. The radio and the newspapers are ready to do their part. The doctors in the medical societies are ready now as they have always been in the past to contribute of their scientific knowladge and of their technic in setting up a system whereby life-saving blood transfusion will be more widely available.

EXERCISE

an American Fetish

Let youth take care of this strenuous exercise business. It is not for those in middle life. Wisdom is in moderation; sport in indulgence—not fatigue! Let prudence be the watchword, says **HENRY A. CHRISTIAN**

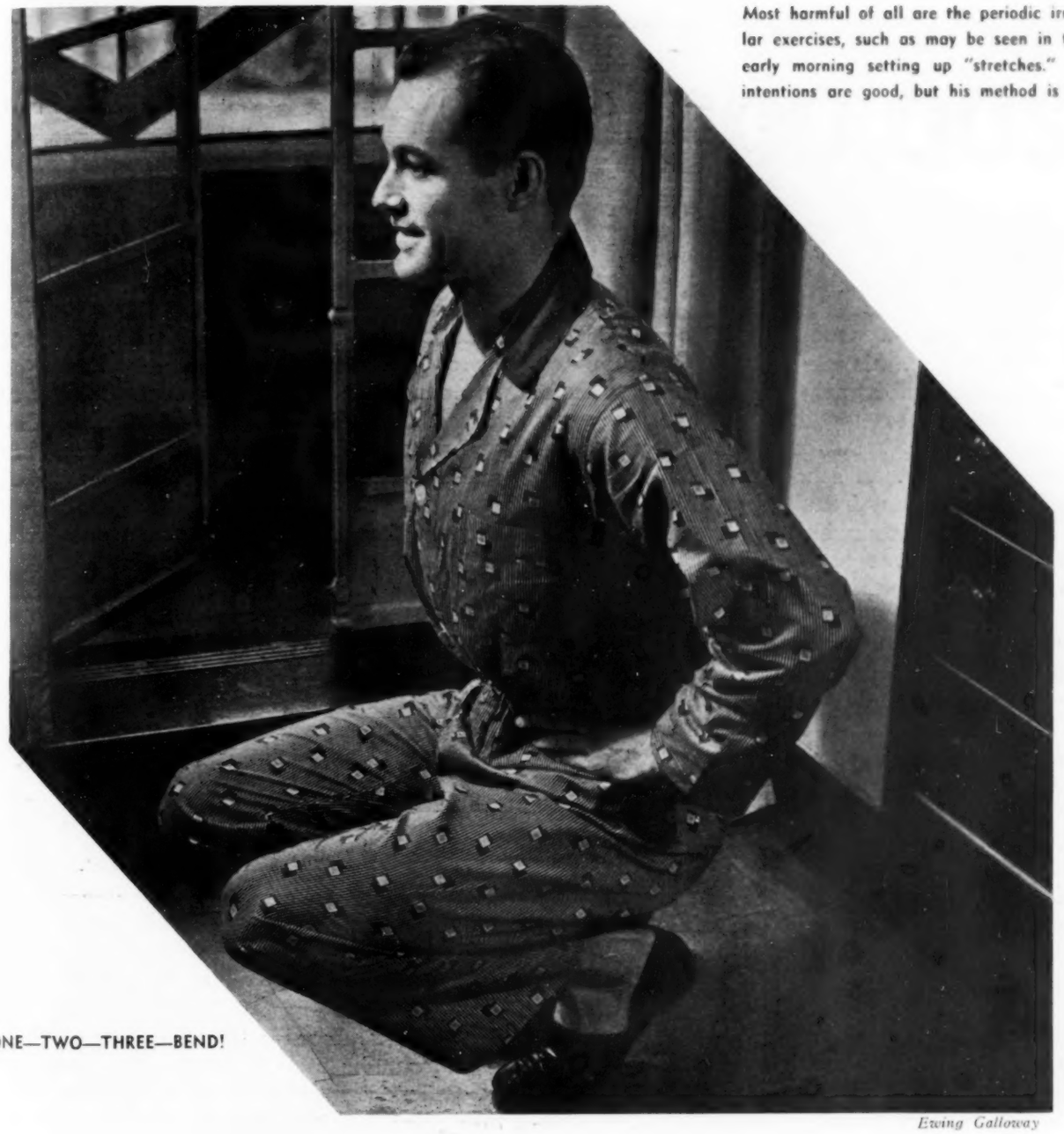
EXCESSIVE exercise is detrimental to health. Nearly every one would readily concede the correctness of this, but varied would be the ideas of what constitutes "excessive." Physicians probably see more injury from exercise than benefit to health as practiced here today. To lessen activity is a frequent admonition from physicians, particularly for those patients reaching or passing their fiftieth year.

Why has exercise become a fetish? One reason is the commonly prevalent notion that exercise facilitates normal evacuations in face of the facts that patients undergoing rest regimens may have no such trouble and that fatigue tends to cause constipation. Most of the symptoms attributed to constipation result from distention of the large intestine and not from absorption of products of food decomposition. The intestine is not a sewer filled with putrefactive material but an organ carrying out an important process in the body economy that should not be disturbed, as is so often done, by those who unwisely upset its properly functioning mechanism and by cathartics speed along what should be a relatively slow procession of food occupying from sixty to seventy-two hours. It is well to remember that advice to exercise less actively is often an important phase in the management of constipation.

Exercise is believed by many to be a necessary adjunct of weight reduction. After 40, many persons tend to add weight, and there is much evidence to show that such increase in weight is not conducive to continued health. These people should reduce their weight gradually to a normal level for their height, age and sex. This is to be accomplished by eating less in amount and particularly less of sugars, starches and fats. Beyond this no particular kind of diet is usually required. It is entirely possible to lose weight gradually on a balanced diet. Rapid loss of weight is undesirable; one pound a week is an optimal loss. No medicines of any sort should be included in a weight-reducing regimen. Various products advertised to remove local accumulations of fat are pure "boloney." Except for the prize fighter or jockey, exercise is not advisable for loss of weight. Unless exercise produces vigorous sweating, it has little effect on weight, and even then the loss is rapidly regained if water is drunk freely. Exercise increases appetite, which makes it more unpleasant to eat less. Furthermore, exercise for fat people is often harmful, for these persons are not accustomed to much activity; thus exercise puts an undesirable strain on them. They are in no physical condition to undergo exercise vigorous enough to influence their weight. Moderate body activity, short of causing fatigue, is desirable for all, but this is entirely different from what is usually meant by "exercise." When past 40, beware of vigorous exertion, "daily dozens" and the like, especially you who up to then have led sedentary lives. Those who have exercised regularly and kept in training may be allowed to continue this practice; but they are not in the overweight class as a rule, and even they should reduce their exercise as the years advance.

Many, when younger, exercised vigorously and participated in competitive games; but they try to keep up such activity as they grow older and often do themselves injury. The temptation to keep on is great. Most men and women cling tenaciously to the idea that they are exceptions to the normal aging process. It is a sad sight to see older men or women wending their way in from tennis courts or golf links, weary of foot, drawn in expression, their faces flushed or ashen, foolishly proud to be able to declare that at 60, let us say, their activities are unabated. Throughout our land such a picture greets the eye almost daily at country clubs and on golf courses. These people lack either the sense or the courage to admit that they are growing older and that former activity is becoming increasingly fatiguing. They persuade themselves that such exercise is necessary for their well being. In fact, a progressive decrease in bodily exertion is what they need.

Most harmful of all is periodic, irregular, vigorous exercise. Most pernicious is the habit, so common in America, of the weekend or all-day golf game or other exercise or the brief vacation with the days filled with incessant activity, often when the individual ordinarily leads a life nearly devoid of physical exertion.



Most harmful of all are the periodic irregular exercises, such as may be seen in those early morning setting up "stretches." His intentions are good, but his method is bad.

ONE—TWO—THREE—BEND!

Ewing Galloway

All too often people collapse or die as the result of unwonted exertion or precipitate an attack of serious heart disturbance, which then necessitates weeks of enforced rest.

Exercise, in kind and in amount suited to the age and bodily condition of the individual, may be wisely indulged in by those past 50; but what exercise is permissible should be determined only after a careful and thorough study of the person by a physician conversant with the past habits of the individual. The physical director, the exercise cultist and other such advisors totally lack the requisite training and knowledge to determine what exercise is advisable for the man over 50. The individual himself possesses a fairly good guide in his sense of fatigue, but this cannot be depended on in certain types of heart disease. At any rate, he may be sure that any exercise is too strenuous, if it is followed by a restless night or any sense of fatigue the next morning. Here is a good rule to follow: If after one hour of relaxed rest, you are still conscious of considerable fatigue, next time shorten the amount or decrease the vigor of the exercise.

Present tendencies to make of exercise a fetish in all probability contribute much to the premature breakdown in so many Americans. Various forms of heart failure cause more deaths in persons past 50 than any other cause. This makes it highly important to avoid the strain on the circulatory system that results from excesses of exercise. With advancing years wisely moderate bodily exertion.

200,000,000 COLDS!

By ROBERT TOUBIB

I HAVE a cold. One of the 200 million odd colds which, this winter, will take happiness out of more days in the calendar than all the other diseases together.

The bus was crowded when I went to the office yesterday. A school girl coughed in my face. That is how I caught my cold. I confess a vile misanthropic impulse to get up today, go down on the bus as usual and cough as much as I like. Dramatically, my hand would be placed in front of my mouth. It is so ordered by the sign posted over the front windshield. That would not do much good, but it would be more polite.

That is the method I have followed in the past. This time I am going to stay in bed or at least at home. Not because I have reformed or that I have learned something new since my last cold. No. Happily the time has come, at last, when I will no longer be catalogued as a "sissy" because I stay away from my job "just on account of a cold." The beneficial results of this progress are worthy of record:

First, I can afford to lie in bed and get well in the quickest and most comfortable way—a purely selfish proposition; second, I will not be the cause of any of the 200 million common colds—a purely negative attainment.

If, while lying in bed, I could clarify the problem of colds for others, this affliction of mine could credit itself with a third, a positive benefit, a real excuse for existence.

I caught my cold. We moderns insist that 90 per cent of colds are caught from others. But why, then, does the prevalence of this disease parallel the severity of the weather? We are now in the same state of knowledge in this subject as we were regarding malaria before we tried and convicted the mosquito. This was the theory of malaria as stated in Watson's "Practice of Physic" (1865):

> If a person were never exposed to the malaria, he would never, as I believe, have ague: but having once had ague, he may many times have it again, although he should never again be subject to the direct influence of the malaria. . . . The east wind is a common re-exciting cause in such cases; exposure to cold in any way, is another.

Substitute *a cold* for *the malaria* and *it* for *ague*. Have we not an exact picture of the epidemiology of the common cold? As in malaria, certain persons must harbor the cold organism. Where? Probably in their mouths and throats with a lot of well known organisms. But we cannot see the infective agent of the cold, because that disease, like influenza and measles, is caused by an ultramicroscopic filtrable virus [a germ so tiny that it cannot be seen through the most powerful microscope and that will pass through the finest filter]. In the fall and winter when "the east wind blows," the disease is activated in those individuals who carry the virus. They are considered susceptibles. Being accustomed to having the disease frequently, they "would never think of staying at home just on account of a little cold." And the cold season is on.

There might be an objection to this explanation: "Any one exposed to icy weather will catch a cold." I do not think so. The common cold is only one of at least a half dozen enemies which frequently attack the respiratory system of man. If he harbors pneumococci, he may develop pneumonia; if he has streptococci in his throat, he may have a sore throat, and if he comes from the deep South or the tropics, he may have malaria. Or he may get off scot free. Unfortunately, many of these infections appear as complications of each other. They become allies in their attack on us, live and fight in what is called symbiosis.

Overcrowding with cold victims in public conveyances, movies and other gathering places is one source of infection. The handling of dishes and food by them is another. Or, cold or no cold, they may be the kissing kind. An important danger in the household is the servant. Like in typhoid, cholera and dysentery, if the servant is infected, the family will soon have the disease. This is not a pleasant thought. The precautions necessary for the servant to take to prevent herself from being a menace are simply beyond the capacities of her class. The solution of the problem is obvious, if inconvenient: Send her home until she is well.

I have a cold. One of the 200 million odd colds which this winter will take happiness out of more days in the calendar than all other diseases together.

Stephen Deutch

The same problem appears and the same solution applies in the case of the restaurant employee. But will it be applied?

The trouble is that the cold victims are not worried about catching colds. If some Draconian law could force those who have colds to worry, the common cold would be no longer common.

If the cold victim wishes to show some consideration for humanity, he must remember that the smallest droplet from his nose or mouth is a danger. If he must mix with his fellows, the ideal thing would be to wear a mask and use the paper handkerchief technic of the tuberculosis sanatorium. The least he should do is to keep a large masculine handkerchief over his face when he must cough and dispose of his handkerchiefs in a way they can do no harm. My school girl of yesterday had a cloth gauze-like affair about 5 inches square.

But it is too soon to depend on the precautions the victim might take. Our present defense is to prevent our exposure to infection, especially in overcrowded stuffy atmosphere. If it is imperative that we expose ourselves, it would be logical to wear a mask. Unfortunately, at present we haven't the nerve, even in the presence of an epidemic. Some day we will. Then we will wonder why we have been such fools to care about our appearance.

In addition to these precautions involving isolation, there appears only one factor of value in the prevention of colds and in decreasing their seriousness: the maintenance of good health by all the logical means of proper exercise and rest, avoidance of excessive fatigue and exposure and the consumption of adequate nourishment —providing an ample supply of vitamins. Certain cases in the susceptible class bring out this point strikingly:

There is a sweet young lady whom nature designed to have curves. Just as long as this lady follows the diet which assures those curves and while she dresses according to the weather, she enjoys fairly good health. But the moment she tries to reduce her curves or neglects to wear her rubbers when she should, she is in for a cold which is sure to last a month.

Two other methods of prevention are popular: First, the hardening process by cold baths and equally rigorous procedures. But those who apply this method seem to have about the average amount of colds. Second, vaccines, either by hypodermic or by mouth, are widely prescribed. In fact the sweet lady with the curves is now taking a series of doses of one of these bacteriologic hashes designed to establish immunity to colds.

Many methods of prevention are backed by favorable statistics. But beware of statistics. Any method has the virtue of making the subject *cold conscious.* That cold consciousness makes him more careful and will usually reduce the number of his colds.

A careful evaluation of cold vaccines has recently been published in *The Journal* of the American Medical Association. The reports seem to indicate that the cold vaccines now available are all useless. But are they useless? Both the vaccinated and the controls [those persons under observation but not vaccinated] had an approximate average of two colds last winter instead of the five they had the winter before. Vaccinated and unvaccinated seem to have benefited equally, but both groups *thought* they were being vaccinated. Does this not justify continuing the vaccine in the case of the lady with the curves?

But enough about pre ention, pa
those who, like myse'f, already
What shall we do about it? A
wrote of his wounded: "I dresse
God healed them." After 400 years the medical
treatment of colds is on the sa
"Physicians make them comfort
heals them." If the laity thinks
tion of the medical profession is
colds, let it remember the rule o
Tralles (sixth century): "The
patient is not foreign to his wel

And the means of making th
fortable improves almost daily.
statement only applies to the con
not to certain respiratory infecti
we now have a truly miraculous

The details of comforting you i
beyond this effort. If you are
forted, you run less chance of l
ditis, otitis media, bronchitis or
common complications of a cold

But if you just won't have a d
in bed as I am staying; comfort y
out the use of drugs; don't blow your nose too hard, and if your throat is sore, gargle with some hot salt or soda solution. These things, at least, will do no harm. That is more than can be said with truth about many of the blithely recommended popular treatments.

Because the doctors have not found a dramatic cure or prevention for colds, all the neighbors, the pseudo-scientific dreamers and the commercial sharpers believe themselves licensed to attempt to solve the problem. They know that a cold infection is frequently admitted via the nose and mouth; that there are some two dozen organisms living in the average mouth and throat; and, most important of all, the commercial sharper knows that the cold victim is the ideal sucker. On this basis, the latter devises a mouthwash and gargle which will kill bacteria in the least possible number of seconds.

Why kill normal bacteria in the mouth? Are you sure they do no good? Has any carrier of disease been stopped from being a carrier by mouthwashes? If infection is present, can the mouthwash possibly reach the organisms attacking on the front line of infection? Does this death dealing solution injure the mucous membrane or decrease your normal protection against infection? It is safer to stick to a harmless and familiar solution or follow the advice of some one who knows what he is doing.

The much-advertised preparations bought in the hope of curing colds contain a great variety of ingredients. Among *(Continued on page 1008)*

T. McDERMOTT

Adjustments in Marriage

MUCH unhappiness in marriage could be prevented and divorce rates reduced if every couple contemplating marriage would first consult a physician. In such a premarital consultation, physical disease or abnormality can be discovered, and at the same time it can be determined whether either person is suffering from psychologic conflicts which might mar the marriage. Also, the couple can receive instruction concerning the sexual side of marriage, which is so important.

One great difficulty with many newly wed couples is that they expect too much from marriage. They expect to reap benefits without any expenditure of energy or thought, and they look forward to obtaining values that marriage was never intended to give. Also, they believe that the romance and thrill of the courtship and honeymoon will last forever. Yes, they know that such supreme happiness did not last in many marriages in their community, but still they think theirs will be different. Cheap movies, cheap magazines and dime novels are the common causes of such frivolous attitudes. Married life has definitely been pictured as being too romantic. No one objects to romance in marriage; on the contrary, it is a fine thing, and many marriages would be happier if there were more of it. However, reality must be faced, work must be done, responsibilities must be taken, and one must learn to live with another person who is human and has some faults. After the honeymoon, the young wife soon learns that her hero is not as perfect as she thought; in fact, he turns out to be a great deal like many other men. He does not always give her her own way now; he is grouchy at times, and he does not anticipate her wants as frequently as formerly. On the other hand, the husband soon finds that his goddess has clay feet; she has opinions of her own that differ from his; she has a temper, and she often scolds and nags.

If marriage were approached somewhat in the way a business career is approached, there would be fewer difficulties. Before going into a business partnership, the persons involved educate themselves concerning the particular enterprise to be undertaken. Then, after the enterprise has been started, they work together, and they work hard. They share responsi-

bilities; they follow those rules of business which have been found by experience to be helpful, and they arrange for some division of labor for efficiency's sake. For the good of the business, one partner overlooks minor faults in the other, and when some disagreement comes up they settle it frankly between themselves without the interference of any meddlesome outsider. The business is operated with the slogan "One for All and All for One."

Marriage ought to be approached in a similar way, for marriage itself is a partnership. First, the couple ought to avail themselves of the opportunities now offered to obtain some premarital instruction; but after they are married they must remember that the marriage will not run itself successfully. Both partners must work and work together with a common purpose. As in the business partnership, they must share responsibilities and follow those general rules

If marriage were approached somewhat in the way a business career is approached, there would be fewer difficulties, for marriage itself is a partnership, incorporated for profit.

which have been found to be valuable. If each partner is looking after his or her own selfish interests and not for the interests of the firm of Mr. and Mrs. Smith, Incorporated, there is liable to be a failure in their marital enterprise.

Emotional and Personality Difficulties

A large part of unhappiness in marriage is due to emotional or personality difficulties of one sort or another, and these difficulties are often due to abnormalities in emotional development. By emotional development is meant the process of psychologic and personality growth from infancy into adulthood. Often the stage of development reached has no relationship to the person's chronologic age or physical maturity. That is, some persons of 30 or 40 years of age are not mature; they are not grown up, they do not "act their age."

The infant is helpless and dependent. Everything must be done for him; he must be fed, washed and generally cared for. Often he acts as if he were the center of the universe, and at times he does seem to be the center of the family universe. The baby is selfish and has no regard for the rights or privileges of others. If he does not get his own way, he is liable to set up a howl or have a temper tantrum. In some families this is the usual method the child employs to get what he wants, and so a bad habit has been formed. However, law and order soon appear on the scene, and the child learns that if he does not behave and follow certain instructions, he will be punished or at least suffer the temporary loss of his parents' love. A little later he learns that his brothers, sisters and other playmates have certain rights and that he cannot have his own way all the time. He must learn to "play the game"; he cannot be pitcher or batter all the time, and he must take his turn at being "it" in the game of tag. Of course, some children do not adjust to this "give and take" relationship with their playmates, and if they cannot have their own way they sulk, refuse to play and take their ball and bat and go home to Mother.

At the time of puberty, when boys and girls are quickly growing into men and women, emotional difficulties are common. Some of the difficulties are related to the awakening of the sexual instinct at this stage of life, but others are due to a conflict between desires of another order. The adolescent is torn between the desire to cling to the protection and security of his parents and the desire to break away from them, stand on his own feet and be an independent, mature adult. Of course, in a normal development this separation from the parents is made; the individual drops his childish reactions and truly becomes grown up.

Now what has all this to do with emotional adjustments in marriage? Many persons never reach this final stage wherein they are normally emancipated from their parents and are able to take care of their own affairs in an adult manner. When the emotional development has not been completed, the person does not adjust well to the world in general. He has trouble taking responsibility. He cannot seem to work with others in an unselfish manner, and the pressure of competition in the community is often too much for him. Such an individual is trying to handle an adult situation with immature and inadequate equipment, and consequently there is trouble. Most frequently, the result is an infantile response which shows itself in childish personality traits and in a frustrated sort of useless protest. On the other hand, another and more complicated reaction may present itself in which the individual tries to solve the problem by means of illness, and the result is some form of nervous or mental disorder. The person may develop all sorts of symptoms, but the doctor's examination fails to reveal disease of any of the organs.

This does not mean that there is nothing wrong: Instead, it indicates that the trouble is not in the bodily organs but in the psychologic and mental makeup. Also, when it is said that illness is used in an attempted solution of the problem, it does not mean that he imagines his aches and pains; it does not mean that he is putting them on purposely; and finally, it does not mean that he can "snap out" of his symptoms on his own accord, if he wishes. On the contrary the symptoms are real; there is no faking; the aches ache, and the pains hurt. It is not a matter of "cussedness"; it is a matter of sickness. In fact, the individual feels certain that he is suffering from some sort of physical disease, and he seldom has any insight into the connection between his fears, worries and doubts on the one hand and his symptoms on the other. Such a strange state of affairs exists because of the activity of the subconscious mind, but this is not the place to consider the matter in any more detail. Such individuals need treatment as much as any sick person needs treatment; but it is carried out along psychologic lines rather than the conventional treatment by medicines.

As already mentioned, persons who are not emotionally mature often have difficulty in adjusting to other people and to the world of social and business affairs. But particularly such individuals often have trouble with their

married life, because the associations in marriage are so personal, so intimate, and there is so much need for active, unselfish cooperation between the partners. A wife may be too dependent and helpless. In her parents' home, everything was done for her; she did not need to help with the housework; it was not necessary that she learn how to cook, and she never had to take any responsibility of any sort. Maybe she was never given an opportunity to think for herself and make her own decisions. Consequently, her husband must now do everything for her; he must take all the family responsibilities; he must be father and mother to her as well as husband. Most men soon tire of living with such a child. Such a helpless, dependent woman is like the infant. A mature woman is more self reliant.

Extravagance is another form of childish behavior which often strains the ties of marriage. For instance, a wife wants to buy a new, expensive hat, so she talks to her husband about it. He says that the family budget cannot stand the strain, and besides, a payment on the insurance is due. At any rate, he vetoes the shopping trip, and let us say that his decision is reasonable under the circumstances. She gets angry and argues about the matter. But he stands firm because he does not want the family to go into debt. Then she starts crying, runs to her room, slams the door and has a good crying spell. What we see is nothing other than a temper tantrum in a 35 year old child. When she was actually a child it is likely that such behavior got results, that is, she got what she wanted; but the wise husband cannot be won over by such feminine theatricals.

The men are not immune to reactions of the same general kind. Suppose the husband was an only child or possibly the only son with many sisters. He was the favorite of his family; everything was done for him; he got his own way all the time, and in his mother's eyes nothing was too good for him. He is selfish but probably does not realize it. In his own marriage he is likely to be disappointed and unhappy. His wife may not do every little thing for him as his mother did. Now it will be necessary at times for him to think of some one else besides himself. When he does not get his own way in every instance, he may sulk or become irritable. He will feel critical toward his wife, blame everything on her, and he will not see that the fault is with himself and not with her. In his parents' home he was the center of the family universe, like the infant, and he is dissatisfied now when he must relinquish such a desirable position.

"In-laws" are a frequent cause of friction in the young people's lives. This is due, in some cases, to incomplete emancipation of husband or wife from the parents, and in other cases, it is due to an undesirable and often meddling attitude on the part of the in-laws. If one partner has not completed all the stages of emotional development, there remains a too great attachment to the parents because "the apron strings have not been cut." Such a person, the young husband for instance, may insist on setting up housekeeping in his mother's home, but such an arrangement is seldom completely satisfactory to all concerned.

This can be illustrated by citing the case of a young man who had many nervous and physical complaints without any evidence of physical disease. It was suspected that some emotional conflict was present which would explain his illness, and he quickly volunteered the information that his symptoms always became worse after he had some argument with his mother or his wife. The man and his wife lived on the first floor of his home, and his mother lived on the second floor alone, since her husband was dead. About two years before, his wife and mother had argued, and they had not spoken to each other since. His mother never visited downstairs, and his wife never went upstairs. It was at this time that the patient had the onset of his symptoms. When he went upstairs to visit his mother, she scolded him for visiting her so infrequently and for leaving so soon, and when he went back downstairs he was scolded for always going upstairs and staying so long. He was advised to move and leave his mother, for there was no financial necessity for the unhappy arrangement; but he did not, and so all his symptoms persisted.

When the partners in marriage are in their own home, they are not necessarily free from all influence from the in-laws. Whenever matters do not go well, the wife may form the habit of running to her parents with her troubles. She may tell how terribly she is being treated, how inconsiderate her husband is, and she may want her parents to "call him on the carpet" for his bad behavior. Such actions as hers are childish, and her husband will be annoyed. If matters really get "bad" for her, she may pack her things and go home to Mother, just like the little boy who would not play ball unless he could be the batter all the time. Whether the situation is handled properly or not will depend on the attitude of her parents. Usually their daughter's actions have not been warranted, and the parents should not meddle in the affairs of the younger household. *(Continued on page 1039)*

EDWARD D. NIX *pleads for the good of mankind, as embodied in the freedom of those who are—*

HEALING the SICK

This patient receives some of the excellent charity treatment meted out in one of Chicago's large clinics.

THE zealous "reformers" and the pudgy-fingered politicians who keep trying to kick my doctor around with the sophistry of their socialized medicine ideologies are exhausting my patience as a patient and my further endurance of continued outrage of those fond fantoms I still cherish in my personal bill of rights.

In a country where corruption, quackery and politics are so commonly accepted as synonymous, there should yet be left to the citizen some privileges that are protected from our statesmen and their well or ill-intentioned associates.

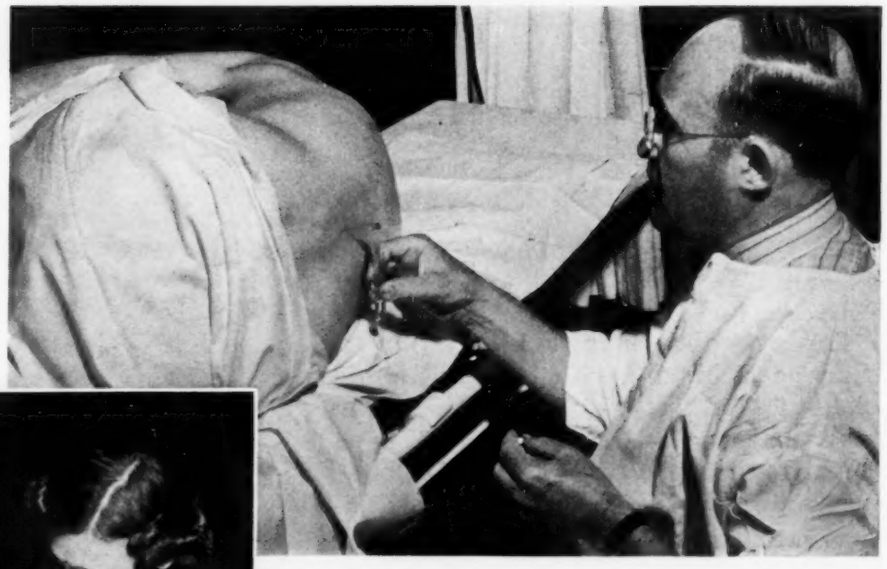
The American Medical Association and "my doctor," generically speaking, both face the threat of this particular political legerdemain at a disadvantage. The truths involved are so simple, and the merits in their right to an individualistic ideology are so sweeping, that they won't or can't speak the simple words that are needed in their own defense.

Confusing to the layman, at first blush, is the fact that there are those with the title "Doctor" who support the idea of a socialized medicine—either in whole or in part.

Reduced to its natural simplicity, the situation merely calls for a definition of "in whole" or "in part" and a definition of the various meanings of the title "Doctor of Medicine."

In the sense that a socialized medicine could provide routine medical care for the needy and health measures would be enforced on the poor and the rich alike for the public good, every one, it would appear, should benefit from a "socialized medicine." At the present time, through the generosity of individual physicians, surgeons and specialists and the organized efforts of their local medical societies and the

The patients at this clinic must first register; each adult pays 50 cents and each child, 35 cents, if they can. This covers most of the clinical expenses incurred during treatment. However, 85 per cent of the patients pay nothing at all.



A "spinal puncture" is being made at right. This specimen of the spinal fluid will then be used in making tests for certain diseases.

At left, a baby visits the eye clinic for diagnosis and treatment. There are 180 doctors on the staff of this large hospital clinic, and their annual services, worth an estimated $500,000, are given free. Approximately 65 per cent of the 29,000 patients annually received were referred here by social service agencies. Each patient is investigated to see whether he is able to pay his 50 cent fee.

American Medical Association, we already have precisely this in most cities—but with the difference that neither the individual nor the state pays the doctors for their free services given in the clinic.

A position of prominence in these clinics is almost a certain badge of merit for an individual physician. It reflects the opinion of his fellow physicians but is in no sense a political plum. The widespread development of this system in the United States is responsible for the commonplace remark that in these United States today the most complete and highly skilled medical care is reserved for the poor and for the plutocrat. But we persons who are in neither class can still enjoy the personal services of our own physician, and when occasion requires he can contrive to make available to us the specialized skills and the technical equipment of which we stand in need.

And in that need, if technical equipment and regimented attention were our choice on the one hand and our doctor alone with his little black bag and his personal care on the other, I think most of us who have experienced need would choose to trust the man alone.

In the sense that a socialized medicine would extend in scope to the point of directing, regulating or in any way controlling the life and career of this individual physician and the freedom of our choice in hiring or firing him, there's as much sound cause for the layman to invite the politician to keep his hands off as might be found in most past incidents of indignant and justified rebellion.

To the politician such a system of control and regimentation opens vistas that are simply "colossal," "terrific," "stupendous." The spoils system of appointment alone would make present resources in this direction look like a game of marbles. Then there would be "centers" to be built—duplicating equipment that is already functioning—and the "rewards" by the superintendent on these jobs might quickly and naturally gravitate to Dr. "Good Fellow" who is "O.K." politically.

Occasionally when one of these bunglers exhausts the last excuse for defense with his fellows and is asked to withdraw from the local medical society, and his membership in the American Medical Association is withdrawn, he raises the weird cry that his own Association is a "trust" and "unfair" to his disorganized labors. Using such disciplinary measures as they have for maintaining a standard of skill and public safety, it would be difficult to estimate the public good that has been served by the American Medical Association in its national advancement of all phases of schooling, research and standards of practice for medicine in this country.

The illustration anticipates a definition. The definition involves the roots of the thing.

Wallace W. Kirkland

Prescriptions are then filled at cost for these indigent patients. The cash register has just rung up 15 cents—a nominal sum for medical needs.

The degree Doctor of Medicine is awarded to the person who has completed a prescribed course of training in a recognized (or in some instances, unrecognized) training institution. A license to practice is secured by passing the state examination, sometimes with only a spit and a lick and a promise in the way of schooling.

In spite of many successful efforts by the American Medical Association to eliminate incompetency in schooling and practice, a few inferior "doctors" continue to evade requital. Some were born frauds and charlatans. Some think of their profession and try to treat it with the routine of a shirt factory or a canning plant. Some were born schemers and politicians.

This group is finding the going more difficult today in this country than ever before. What a renaissance this tribe might find for itself under a socialized system where "the Boss" really told the other medical boys from whom to take orders from now on.

These men are as unfit to practice medicine as they would be unfit to build a bridge or a building had their original course directed them to a different training.

As our most unpleasant group, they are quickly defined and dismissed. When one of them declares himself on the subject of socialized medicine, it might be interesting to check into his professional history systematically before his opinions are seriously attended. Having taken occasion to do this once, I know its efficacy.

If it is easy to eliminate this group from consideration, more care in our definition is required before we can consider, with proper respect, a distinguished and vital group with the degree of M.D., who are nevertheless not qualified in this present instance, if we approach the question from the standpoint of the individual sick man and his doctor.

These are the scientists and the scientific-minded, research-inclined specialists. Indeed, they may heal the sick on occasion. But their occupation, their interest, their devotion is focused on the disease and not on the individual diseased. Their pursuit of the disease is a service to all mankind. True scientists at heart, they are encouraged today with every facility of clinic, laboratory and scientific resource. *And they use these resources with no political let or hindrance.* They are directed only by the pursuit of progress—as progress is valued in the eyes of those who are qualified to praise—and in their own devotion to their science.

Some of these men lured by an enticing mirage of infinite laboratories, inexhaustible research and experimental funds, have spoken in earnest of "socialization"—impatient for the moment with their university, hospital or special private research facilities. Gentlemen, gentlemen! You work so freely you have lost consciousness of the value of your freedom and the value of minds independently attacking the same unanswered riddles. Would you prefer, say, to give us a cancer cure, come November so that a gubernatorial or a presidential candidate could be photographed registering his intelligent appreciation of your discovery on the eve of election? Heaven defend your weary, patient efforts and your test tubes from such offense! You are stupid fellows if you invite it!

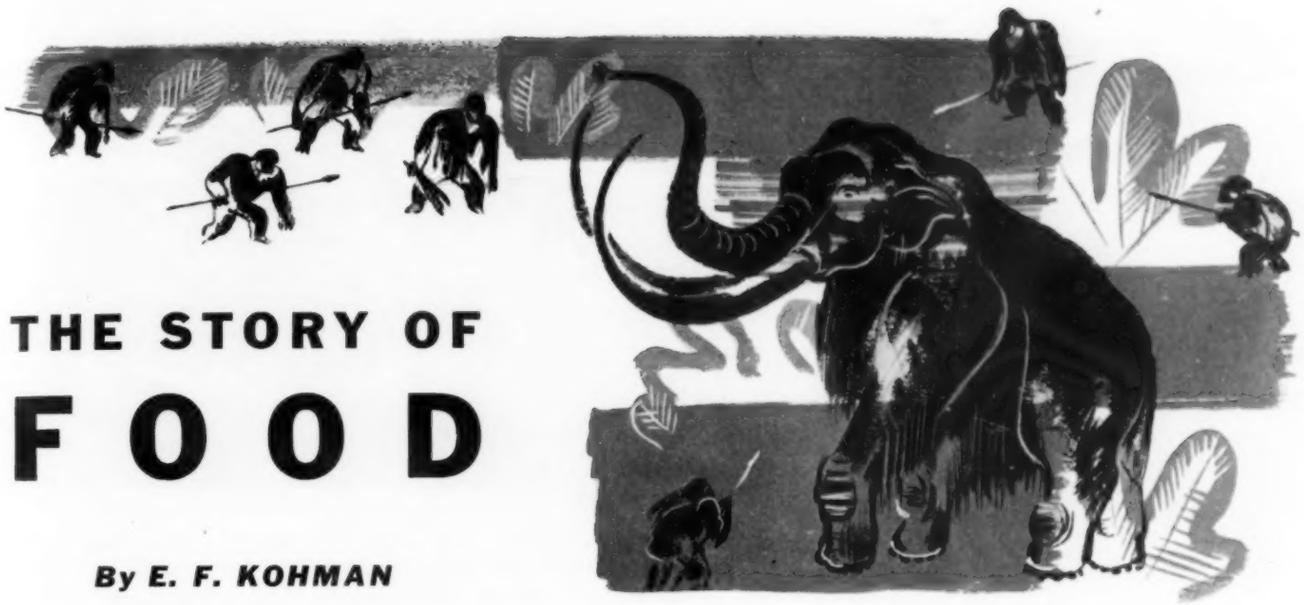
I called on such a scientist once for treatment. There were five other doctors, too. All of us were hopeful that the great man might help unravel our problem. He attacked the problem but ignored the patient. And so I dismissed him. A lesser scientist among the five shared something of my interest in the patient. Science was denied an exploratory survey of a living field. The patient was given nine full and happy years to live.

And it is in this selfish sense of personal interest, I submit, that the layman should speak out in defense of his doctor today and scatter the pack of reformers, politicians or other ideologists who threaten to confound him.

The word "doctor" to the average man has a selfish personal meaning. In the layman's definition much more than the science of medicine is involved. His "doctor" is a scientist, but he is first and last a physician: It is his function to "heal the sick." Late at night, before dawn and all through the day it is his function to heal the sick, and he studies the disease for this end first and last. His care, his responsibility is the man who is sick. *Him—personally!*

This man today is a free agent. He gives his skill, his energy, his life to his business of healing the sick. His rewards come variously in his community. And even if his own community were to attack him with a regimented socialization theory, he would still be awkward or silent in his defense—or in his definition of the word doctor. He would be hesitant, too, in voicing the simplest, most far reaching reason why the practice of medicine—if "the healing of the sick" is the purpose—can never be regimented, routined or controlled by other than personal need.

He might try to explain that for an identically named disease, the difference in individual patients causes him to administer a powerful stimulant to one and a sedative to the other, all under superficially similar conditions. He might even admit the occasional use of harmless sugar-coated pills. *(Continued on page 1024)*



THE STORY OF FOOD

By E. F. KOHMAN

IN NO OTHER period in the history of the world as at the present has such emphasis been placed on the relation of diet to health. In the past, food was regarded as a means of satisfying hunger, gratifying appetite and sustaining life. The idea is modern that it offers the most influential factor to cure numerous ailments, ward off ill health, promote what has been termed abundant or optimum health and to achieve longevity. The Mixed Committee of the League of Nations on Relation of Nutrition to Health, Agriculture and Economic Policy, in its final report, states that the newer knowledge of nutrition shows with ever increasing certainty that inadequate nutrition plays an important part in infant mortality and can account for the excessive proportion of underdeveloped school children and adolescents and the poor health and small output of a large number of workers.

The outstanding developments in this newer knowledge of nutrition are the discovery of the vitamins and the role they, as well as unsuspected mineral elements, play. They make it evident that nutrition is far too complicated a question to be dealt with by the individual. A surgeon in the U. S. Public Health Service stated that if the anti-pellagric factor, known as nicotinic acid, could be made available in unlimited quantities at the cost of table salt, it would not affect the incidence of pellagra in the South. But make available an adequate supply of the right kind of foods, and pellagra will completely vanish. The practical answer to successful nutrition is a plentiful supply of proper foods and educational measures to create correct eating habits.

Food Makes the Man

It would be helpful in a study of man's nutritional needs to know the type of his diet throughout his entire evolutionary history. What our forefathers of a few generations past ate is of little consequence to us. We are not thus affected through heredity. Yet in a sense the summation of the diet through eons of ancestors may be regarded as the material on which our wonderful body mechanism is constructed. We are told "clothes make the man" but even more true and to the point here is the German saying, "Der Mensch ist was er isst" [man is what he eats].

The human body is an organism of almost inconceivable complexity and of the most delicately balanced performances. There are vitamins and enzymes, endocrines and hormones, oxidation and reduction systems, chromosomes and genes. In each and every one of us take place almost innumerable chemical reactions, the intricate and involved nature of nearly any one of which is a challenge to our most profound knowledge of the laws of chemistry and physics.

If the German proverb has truth in it and what we eat determines what we are, it seems almost axiomatic that the materials from which a structure of such marvelous complexity originates cannot be of a simple nature. We are told by evolutionists that our earliest existence was as marine creatures. There are over ninety chemical elements. Out of these, all substances are formed. In each substance a definite number of these chemical elements occur in a proportion and arrangement to form a pattern specific for that substance. One is reminded of the twenty-six letters of the alphabet which give

Evolutionists say that our earliest existence was as marine creatures; all chemical elements are present in some degree in the ocean.

us all the words of our language and offer enormously greater possibilities. To our limited conceptions there is no end to the number of combinations that the ninety some chemical elements make possible. All these chemical elements, in greater or less quantity, are present in the oceanic waters. This then is the environment in which eons of our development occurred. That the various constituents of such an environment should each have its effect is wholly within the realms of reason. Many can remember being taught that potassium, now recognized to have important physiologic functions in the body, is food for plant growth only, while its chemical twin sister, sodium, is necessary to animal life. A few years ago such elements as copper, zinc, manganese and certain others were regarded only as toxic in any dietary considerations. Now they are classified among the nutritive essentials. Many believe cobalt also has been demonstrated to be a dietary necessity, and one can only conjecture as to which element will be the next to be singled out for such a distinction.

The Body Demands Minerals Constantly

To some, a question may occur as to why we need a continuous supply of these inorganic or mineral elements. It is easy to understand that there is wear and tear to flesh and blood which calls for constant renewal. But what about such an element as calcium, which occurs in the body in greater quantity than any other and 99 per cent of which is in the bones? Or phosphorus, most of which also is to be found in the bones? There is some necessary replacement of calcium and phosphorus even in the bones, but this is a minor factor in our dietary requirement. There is a fairly definite calcium and phosphorus level or content necessary in the blood. When this gets too low, there is a demand made on the bones to supply these minerals. Large amounts of bone calcium can be removed by a low calcium intake. While the bones thus become fragile, the more serious aspect is the resulting ill health.

One of the important functions of the body is the elimination of waste materials which, if allowed to accumulate, soon become toxic. This elimination takes place through the kidney. This wonderful and all-important organ manifests some discretionary or selective power, eliminating those materials which are not desired and retaining the desirable. However, its ability in this respect is limited, particularly with respect to soluble constituents of the blood. Some of the calcium in the blood stream thus escapes through the kidney membrane with excretory materials. The maintenance of a constant desirable amount of calcium in the blood requires continual replenishment by the diet. This is equally true of the other essential inorganic or mineral elements. Calcium has been cited here merely as an example.

Now what were the conditions we met, with reference to these mineral elements, when our evolutionary progress permitted us to leave the gloom of marine depths? A number of the chemical elements in all their natural forms are soluble. Rain and weathering had already leached the earth's surface and carried much of the soluble materials to the oceans. The great ado made these days about erosion and soil depletion should make that clear to any one. Nothing of inorganic nature in the soil can actually be destroyed. It merely finds its

final resting place: the ocean. And there is concrete evidence of the ill effects of this process on human beings. An outstanding illustration is the lack of iodine in the soil of certain widespread regions and the concomitant incidence of goiter. Ancient Phoenicians made a practice of feeding burnt sponges to thyroid patients. We now know that most of the iodine is in sea waters, and the ash of sponges is rich in iodine. Yet the discovery of iodine dates only to 1812, when it was obtained from the ashes of seaweed, and our knowledge of the relation of iodine to the function of the thyroid glands dates only as far back as the work of Baumann in 1895.

These early remedies for goiter serve as a striking example how life—in this case human life—finds its way in some inevitable and mysterious manner. Fundamental facts are arrived at in ways that to our scientific and experimental age seem incredible. Numerous instances could be cited. In early nautical history, before the idea of vitamins ever occurred to the imagination, ships' rats were eaten to prevent scurvy. We now know the rat can manufacture vitamin C by eating food on which the ancient mariner perished of scurvy.

We are aware today of the great importance of calcium in the diet. We know definitely how much of it we require and the amount each food will supply. Our greatest reliance is on milk and leafy vegetables, and the greatest need is during growth, prenatal and postnatal. But how did primitive women know that the ash of inedible leaves was good for them during pregnancy and lactation? How did they arrive at the custom of pickling or stewing bones in vinegar? They had no inkling of our concept that the acid of the vinegar dissolves some of the calcium of the bones which thus become a food for us.

Yet in spite of this instinctive arrival at wholesome remedies for faulty diets, dietary deficiency diseases are known to have occurred throughout the world. In certain oriental regions in time past the population has been actually decimated by beriberi because of too exclusive use of polished rice and other food lacking vitamin B. This is still the cause of an appalling death rate. The disasters from scurvy in early nautical history may seem far removed; but not so remote are the milder epidemics in our New England states only a few generations ago, resulting from a failure of the potato crop, about the only succulent food available during the winter. Pellagra is definitely known to be due to faulty diet and is all too prevalent in the South. In addition to these epidemic

occurrences, individual cases of definitely recognizable dietary deficiency disease are common.

There are other human ailments in which improper diet may sometimes play a part. Among these are certain forms of heart disease, hardening of the arteries, arthritis, chronic stomach trouble, diabetes and an occasional unexplained headache. It was found that a change in the dietary habits of patients suffering from these diseases to a diet termed "protective" not only mitigated their distressing symptoms but actually restored the soundness of the injured tissue. It is therefore expedient to inquire what dietary habits are to influence such conditions. A full understanding requires a knowledge of what constituted man's diet throughout ages past.

One of the earliest meals on record is that served by Abraham and Sarah to the three angels who came with a promise that they should be blessed with a son, Isaac. Sarah made cakes on the hearth from fine meal, while Abraham ordered a calf to be dressed. Butter and milk were also served. One of the earliest dishes on record is the pottage of lentils for which Esau, son of Isaac, sold his birthright to his brother Jacob. The ever normal granary was as much a problem in the time of Joseph in Egypt as it is with us today. Man's food since the dawn of history up to a few decades ago consisted largely of seeds—mostly cereal grains unrefined—and animal products, predominantly meat, as milk and its derivatives constituted only a minor portion. Fruits were decidedly seasonal and just as limited. Vegetables were thought of for food purposes little more than we think of herbs for cookery today. Herbs were used more *(Continued on page 1020)*

REVOLUTION in FOOTBALL

Photo, Northwestern University

ALL is not quiet on the football front. This fall millions of spectators are sitting on hard cement and wooden benches while youngsters dressed in football togs are romping on the turf in a mighty struggle to carry the pigskin over the goal line. But while all this is going on, behind the scenes there is revolt. The revolt is being carried on by certain school administrators, physical education teachers, physicians and parents who maintain that the hazards of football are far greater than any value that might be attributed to the game. The revolt against American football has gone far beyond a criticism of the dangers of the game. Attempts have even been made to eliminate football entirely from school programs.

As recently as April 3, 1939, Grover A. Gates, a California physical education instructor, speaking at an athletic section of the American Association for Health, Physical Education and Recreation, urged elimination of interscholastic football. In one statement for the press Mr. Gates said: "There is a growing realization on the part of parents and school administrators, especially health, physical education teachers and directors, that football in particular and the entire interscholastic program in general is very largely wasted human effort. It has little of educational value, and is a serious handicap and drag on the entire educational program. Football is the backbone of this interscholastic program. If it can be eliminated from the high school program, redirecting the entire interscholastic contests into an educational program will be a comparatively easy matter."

Mr. Gates based his drastic suggestions on a study of case histories of football injuries and deaths. His recommendation, however, that football be entirely eliminated from the sports program was met with strong opposition.

Interesting, too, is the fact that almost at the same moment that Mr. Gates was addressing the section on athletics, in another room of the convention hall the results of a questionnaire were being tabulated. The questionnaire had been sent out by the California State Department of Education requesting high school principals to vote on the following problem: "Do you wish interschool American football continued as an integral part of your educational program?" The results of the vote on this questionnaire were: Yes, 256; No, 78.

The vote of the California high school principals seems a natural one, and, if I may venture a guess, a similar questionnaire presented in any of the states of this country would probably result in a favorable vote for the retention of football as an interschool sport. This does not mean, though, that the revolution in American football will not go on. It should go on, and the main problem around which the revolt should center should be regulation, and not annihilation, of the game of football.

In the October 1932 issue of HYGEIA appeared an article by me entitled, "Death by Football." In that article an attempt was made to present a picture of the swelling tide of criticism against a game that was causing so many injuries and deaths. In that article I made an appeal for regulation of the game of football. Fortunately, that appeal, and the appeal of hundreds of others in various sections of the country, did not go unheeded. The story of the revolutionary changes that have occurred since 1932 in the administration of football is well worth telling.

It was in 1932, in fact, that the National Federation of State High School Athletic Associations adopted interscholastic football rules which were used in the states of Illinois, Iowa and Wisconsin. In January of this year, when representatives of the National High School Athletic Associations met to revise the football rules, a roll call showed that twenty-seven states belonged to the association. Of the twenty-seven states, four states—Maine, New York, Nebraska and Washington—had a voice for the first time in the revision of football rules used by high school players.

***Revolution! Here in America, revolt is going on behind the doors of certain departments in high schools and colleges. What's the idea? It's football! The latest war bulletins are given by* ALFRED E. PARKER**

According to the Interscholastic Football Rules Committee, "Increased activity of interscholastic groups in applying scientific methods to the study of high school athletics and in assuming responsibility for their proper direction and control is a significant development. The local, state and national high school bodies constitute the perfect setup for enabling high school leaders in athletic activities to assist in developing the type of game that shall be played and in adapting it to interscholastic needs. The rules are the result of the organized effort of thousands of progressive high school coaches and administrators who have been eager to cooperate in directed experimentation with any provision which has offered possibilities in improving the game of football, or better adapting it to the capabilities of high school players, or making it safer."

And after all, why shouldn't high school coaches have something to say about the rules governing the players on their teams? Why should high school teams follow to the letter the rules of football as set up by college coaches? There seems to be but one logical answer: High school football should be adapted for high school players.

The game, as administered by the National High School Athletic Associations, is still American football; but it is football adapted for immature boys. And certainly one of the objectives of the Interscholastic Football Rules Committee has been to plan the rules so that injuries may be reduced to a minimum. In fact, the committee states that during the last several years thirty-two measures have been adopted in the interests of safety.

Continuing their objective of making the game safer, the committee adopted a rule for the 1939 season which permits a player to re-enter the game once during any quarter. This gives a coach an opportunity to remove a player for a short rest or for the purpose of attending to a minor injury.

Proof of whether or not the high school football rules have improved the game for boys is found in some of the answers to a questionnaire sent to high school coaches in the state of Illinois. One of the questions asked was, "Have the rules decreased the number of injuries?" All except two answering this question said "Yes," and they substantiated their claim by pointing to the fact that many dangerous features of the game had been eliminated, such as

flying tackle and the flying block. They also maintained that rules regulating the kickoff, tackling, the forward pass, the returning of punts and blocking had reduced injuries. Furthermore, the Illinois coaches called attention to the fact that the high school football rules afforded the passer more protection; that less piling up was permitted, and that, as a result of all this, sportsmanship had improved.

One Illinois coach, in returning the questionnaire, added this comment:

> In regard to safety we feel that the interscholastic rules have caused a definite decrease in the number of injuries in high school football. To point out an example, I want to mention the protection given the forward passer. This rule has decreased the number of injuries sufficiently to warrant the adoption of the entire set of rules even though they offered no other advantages. Other safety factors are those causing the ball to be moved in fifteen yards from the side line and those compelling the defense to remain spread in anticipation of the forward pass from any place behind the line of scrimmage.
>
> We find in Illinois that our games have become more open and scoring more frequent under the high school code. It is not uncommon to find a losing team scoring two or even three touchdowns. I recall that in one of our high school games the final score was 26-25. Spectators certainly voice their approval of this open game. At the same time, I do not want to convey the idea that our games are all razzle-dazzle and wild affairs. Basically, we depend upon hard blocking and tackling just as any college team does and I don't believe that the high school rules have taken a thing away from these fundamentals.
>
> High schools play about two thirds of all the football that is played in our country, but up until the adoption of the interscholastic code they had no representation in making up the rules. The present rules are written by high school men interested in high school boys and high school play. Thus, I believe we have a safer and a more interesting game from the high school standpoint.

It is obvious, then, considering the evidence presented, that football is a safer game for boys when played under the rules set up by the National Federation of High School Associations. In addition to football played under the National Federation Rules, the development of six-man football is another revolutionary happening that has contributed a great deal to making the game safer for boys.

Six-man football was conceived by Stephen Epler, physical education teacher at Chester (Neb.) High School. Mr. Epler, coach during the year 1934, found that out of the total school enrolment of thirty-five, there were only seventeen boys. It occurred to Mr. Epler that it might be a good idea to try the game of football with less than eleven players on a team. And so was born the idea of six-man football which today is being played all over the United States by players in high schools, colleges and clubs.

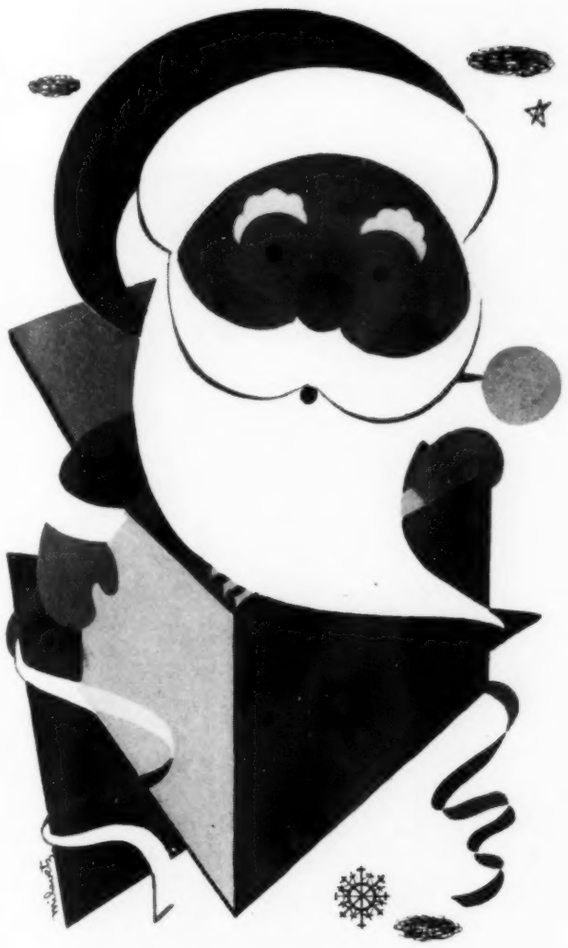
Although differing in certain rules, six-man football is still American football. The development of this game came at a time when many administrators of athletics were in a quandary as to what to do with their football problem. Certain schools were finding that football was too expensive, and, not being able to provide proper equipment, many injuries resulted.

Certain of the rules, as planned by the National Rules Committee for Six-Man Football, help to reduce injuries. For instance, there is a rule requiring that before he may cross the line of scrimmage, the offensive ball carrier, after receiving the pass from center, must pass the ball to a teammate. The intent of this rule is to require a pass, not a mere change of hands. Officials are required to rigorously penalize all doubtful passes. This rule was adopted in the hope that accidents or injuries might be lessened on this type of play.

Still another rule aimed to make for safer playing states that a forward pass, thrown beyond the line of scrimmage, may be thrown from any point behind the line of scrimmage. The rule also provides that all players are eligible for forward passes. The Interscholastic Athletic Association of Wisconsin discovered that by using this particular forward pass rule injuries fell from 36 per cent to 9 per cent of all injuries for the first year the high school used this rule in eleven-man football. Consequently the advocates of six-man football determined to adopt a similar rule.

Thinking again of the safety of players, six-man football rules require that all players must wear canvas shoes with soft rubber soles, and no player is permitted to play without a headgear.

Two other rules used in six-man football contribute to the safety of the game. One rule provides that the playing time consist of four ten-minute quarters or four eight-minute quarters in junior high school games. The rule also states that there must be three minutes between quarters. Referring to the Wisconsin study again, it was found that 12 per cent of the injuries in high school contests occurred in the last three minutes of the game. Consequently, it was considered logical that a shorter game should reduce injuries. The other rule making for safety provides that at the end of the fifteen-minute period between halves both teams have to report to the field and warm up for three minutes before the second half is started. The Wisconsin study showed that 14 per cent of all serious game injuries occurred during the first three minutes of the second half, when players' muscles were cold and *(Continued on page 1022)*



FUTURE PREDICTIONS

LADIES, DO YOUR FACES HURT? Does the cold winter weather dry and parch your complexion so that it is rough and painfully tight across your forehead and cheek bones? If so, you should read Dr. Eugene F. Traub's article "Care of the Skin in Winter" and get the opinion of a physician. He warns that, "Many persons seem to feel that all they need do to protect the skin against any kind of infection or rash is to bathe and scrub frequently with soap and water." This is not true, for as he says: The skin requires additional lubrication and special care.

In addition to the methods for preventing dryness of the skin, Dr. Traub evaluates treatment and prevention of eczema, winter dermatitis, frostbite and chilblains. This is an extremely interesting article which gives authentic and valuable advice on a subject close to every woman's heart!

THAT FINE SOUTHERN COOKING DIFFERS in many respects from fine Northern cooking comes often as a surprise to the Northerner who goes South to live. With this premise, Harriet Acheson Koch writes of her experiences with Southern cooking when she moved to Georgia. She gives tempting recipes that sound like food from the Land of Oz: Just wait till you see recipes for Hush Puppies, Hopping John, Jambalayah, Syllabub, Ambrosia, Grits and Pot Likker, to mention a few which she gives in "Secrets from a Dixie Kitchen."

"FIRST AID IS TOO LATE!"—a forceful and convincing article which will point out that the results of care are infinitely more pleasing than those of carelessness even if the first aid is expert! The message that Richard Adams Learned brings to these pages is important, so take care to read it *carefully!*

FOR MORE YEARS than Melvina would have admitted, she had enjoyed poor health. She had a Friend, Mathilda Meddle, who had once taken a mail order course in nursing. Consequently Miss Meddle knew more than anybody else about everything. When Melvina's doctor prescribed medicine that contained a drug, Mathilda warned her not to take it.

Melvina's life was one upheaving experience after another. W. W. Bauer, M.D., chronicles the fable of Melvina's tribulations in a droll and thoroughly delightful manner. Next month, "Forty Years' Experience."

OTHER FEATURES will be "Indian Hospital" by Editha L. Watson; "Discipline and Obedience for Children" by William I. Fishbein, M.D.; "America Gives a Card Party" by William E. McKenney, and the final instalments of "The Story of Food" and "Adjustments in Marriage," started in this issue.

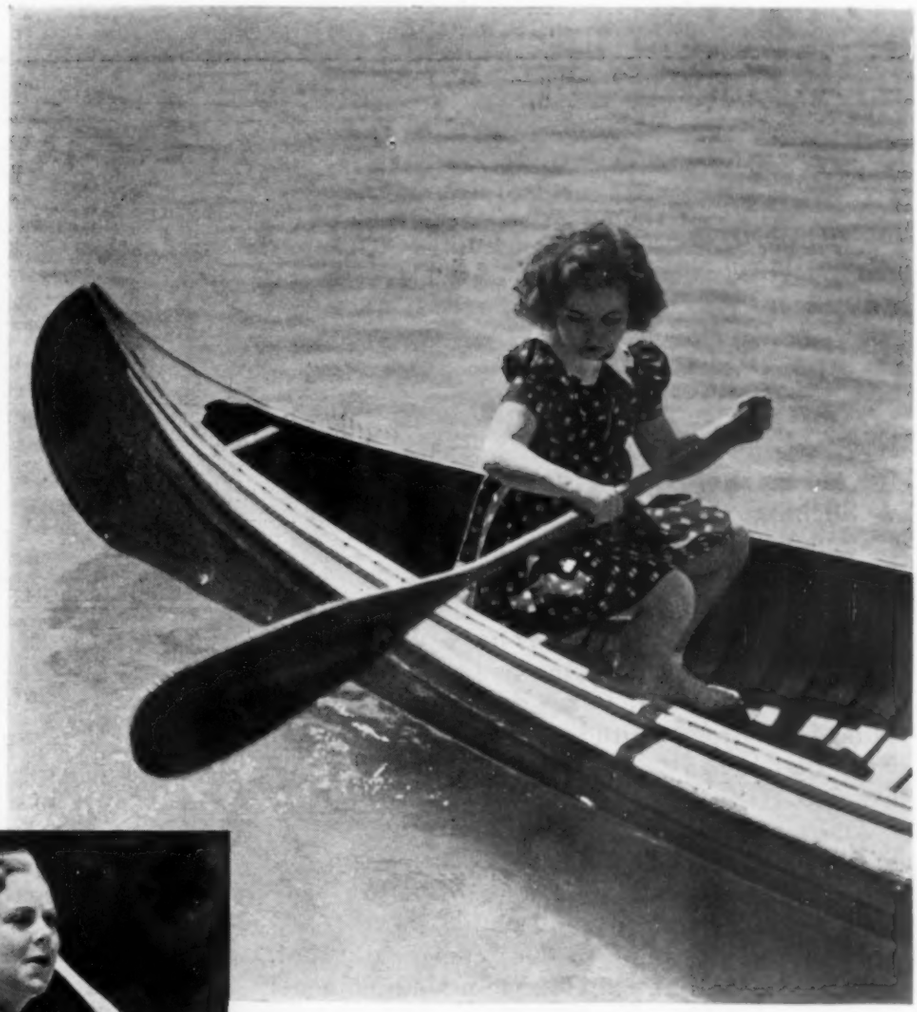
The Stars Keep Fit

By LOUISE PRICE BELL

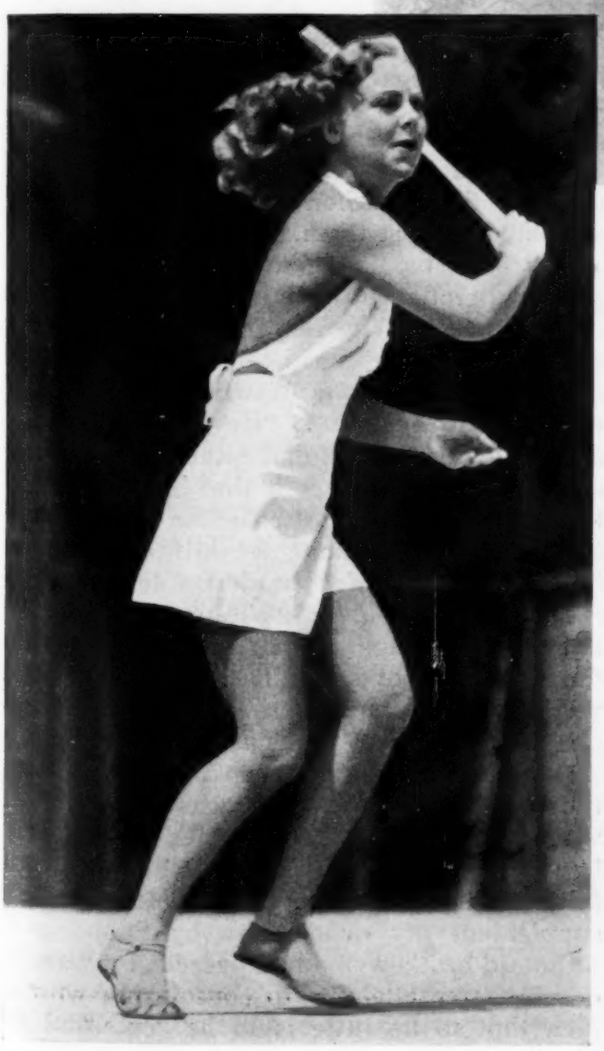
Who knows better than the people of cinemaland the importance of exercise in retaining health? Spare hours away from Kleig lights and cameras find almost all of them pursuing sports that keep them in good trim—swimming, tennis, horseback riding, canoeing and bicycling, for example. These sports are the medium through which they maintain their beauty, their grace of motion and their physical resistance to disease.

Jane Withers' teeming spirits find exercise on a bicycle. She has never been sick a day in her life, and she can swim well, ride horseback, climb a tree and cut figure 8's on the ice.

Joan Crawford keeps in trim by playing a game that is considered one of the most strenuous and dangerous of sports—polo.



Shirley Temple paddles her own canoe, while Sonja Henie strikes back—at the ball; and Deanna Durbin climbs upward. One result of these activities is their beneficent effect on the health and well being of these stars whose livelihood depends on their looks —which depend on their health!



RULES for REARING A RUNT

I AM a runt. Such appellations as Shrimp, Shorty, Half-Pint, Pee-Wee and so on *ad infinitum* have been hurled my direction as far back as memory leads. Mother now to a preschool runt of my own, I have done some concentrated thinking as how best to pass on to my undersized daughter the sane, indifferent attitude toward "runtism" that it has taken me a lifetime to develop.

To be of normal size is to the average individual a blessing as casually accepted as having teeth, hair or a nose. But to be too fat, too thin, too tall or too short is to be the legitimate prey of conspicuity that, to a sensitive child, may lead to maladjustments of lasting influence. For the overweight or underweight child, glands may possibly be treated, diets regulated. At least, he can be expected to "come out of it." But for the youngster who gangles above or lags below his contemporaries, and does so only at the will of that demon heredity, the prospect is less bright. Nothing can be done for him except help him to develop serene, and if possible, mature attitudes toward his fate. That exception, however, may be everything in the progress of a balanced personality.

Our little girl had a 6 pound start. She thrived. She grew—in wisdom but not in stature. She was simply tiny. "Well, she comes by it naturally," people comforted. The opinion was confirmed by the doctor. And even that well-meant gentleman chuckled and decreed, "She'll probably turn out like her mother—a runt."

I didn't chuckle. I didn't even grin. A runt! What unkind fairy had attended this baby's christening to cancel all other virtuous gifts with such a dreadful one? For I was looking back through the entanglements of my own childhood—the nicknames, the feeling of inferiority snarled up with attempts to compensate, the countless hurts, real and imaginary—rather than ahead toward some means of effectively clipping these barbed wires before my baby stumbled against them.

Our first step in what we believe to be the proper direction has been to supply a respectable nickname. The respectability of calling a girl child "Mickie" has been heatedly protested by all relatives, none of whom, however, has ever had to answer to "Hey, Scrub!" or "Hi, Insect!" But our fundamental reasoning back of the nickname legacy is that it's like clearing the land before more destructive fire can reach it. A fitting nickname established early will hold its own against undesirable ones. We realize that undoubtedly she will be the recipient of more original and imaginative epithets during her school days, but it is unlikely that she will have to endure "Sawed-off" for any considerable length of time, as I did.

Our second decision is to maintain an attitude of size-indifference. I was born in an era when mothers strove to produce big babies. I have a notion that my own mother must have felt called on to apologize for me or at least supplement my deficiencies by flaunting the 11 pound brother who had preceded my arrival, despite later attempts to console me with the idea that to be little is to be "cute." I was

One of the more important rules for parents is: Do not make the small child wear the outgrown clothing of other children. This is one thing that used to upset me terribly, says
MARJORIE HOLMES MIGHELL

always being stood back to back with some other child of my age to show off how much smaller I was. I can only guess what baleful effect this had on the other child. Certainly it did me no good. I became size-conscious, self conscious and an exhibitionist to make up for the vague uneasiness I always felt when in the presence of larger children.

Our runt is not to participate in such demonstrations. We want her to feel that size is as inconsequential as the color of hair or eyes. A subject to be neither avoided nor pursued. When others exclaim over the fact that, although going-on-four, she is no larger than many a husky 2 year old, the subject is treated as casually as the weather and dismissed as soon as courtesy will allow. We have, of course, received the assurance of dependable physicians that there is nothing organically wrong with her. These visits are never associated with anxiety, hope, disappointment or pride on our part nor any sense of importance on hers. We do not want her to be aware of herself as an object of concern or special consideration. In fact, we are not concerned so long as she is healthy and has the mental and physical accomplishments requisite for her age.

The matter of clothing is point three in our campaign against the tribulations of being a runt. Regardless of the state of the family budget, Mickie is not to be expected to wear the outgrown clothing of other children.

Some children may not chafe in hand-me-downs. To me they were insignia somehow of my failure to have kept pace; I had not grown, therefore I was not worthy of new clothes. Such an impression is the last thing any of my elders dreamed of fostering. Far from being

an abused, underprivileged weakling, I was pretty well spoiled. It was kindness which prompted friends and relatives to rush home at sight of me and start pawing through closets and digging into trunks. My parents were well able to clothe me. My brothers and sisters were never floundering in seas of second-hand garments. They even envied me the quantity and variety of things that were given to me *because I was little.* But all this put an unhealthy emphasis on my size. I alternated between a smug, proud attitude at home and downright cringing in public where I imagined my frock or coat might be recognized. I lacked prestige in my own eyes.

Women were forever pouncing on me and smothering me with attention, burbling and cooing over me as though I were still in diapers. I could not but know that they thought I was "cute"—again, *because I was little.* And so, feeling sorry for myself in my second-hand clothes, I liked to pretend that they secretly despised me and only made all the fuss because they too felt sorry for me. I knew better, but I enjoyed the role. Consequently, I was hurt when I got this attention and heartily mad when I didn't.

I want my daughter to be a natural, likable person, without resorting to any such ridiculous self dramatization. The simplest precaution seems to be to avoid providing her with the equipment. Not, however, at the expense of snobbishness or the sacrifice of complete indifference toward size. She is never to be made to feel that she is "too good" to wear Cousin Harriet's blue wool sweater or last season's galoshes. Nor is she ever to hear, "You don't have to wear second-hand clothes just because you're small." The defensive attitude and size awareness created by such preachments would more than cancel any good accomplished. Accepting or declining Cousin Harriet's offer will depend entirely on Mickie's wishes. Any indication of reluctance or self consciousness would necessitate refusal or at least the disappearance of the offending garment—but with no emotional scenic effects.

Our fourth statute is one which we may never have to enforce. "Specials"—or double promotions—may be antiquated by now. Furthermore, our pride-and-joy may not prove to merit one. But should the peril ever threaten, there can be no compromise with our decision. She is not to be thrust ahead of her own age group. It is bad enough to be a runt, without being singled out, derided, envied and otherwise persecuted as brainy. The combination is always fatal.

I shall never forget the horror of the day I forsook the security of the second grade for the strangeness of the third. I didn't fit the monstrous seat. The teacher brought a little box to place under my floorward dangling feet. The giants about me giggled. At recess there was nobody to play with. The deserted second graders no longer wanted me. The third graders resented me. Such experimental uprootings are hard on the normal child; for the runt, they are little short of tragic. He's not only younger than the group—but, irony of ironies, he even *looks* younger than he *is!*

Socially he cannot bridge the gap. As a result, he attempts to compensate and usually overdoes it. To guard against overcompensation, while at the same time provide our daughter with opportunities to develop whatever talents she may have, is our fifth and final resolution. She is to be offered dancing and music lessons, not in an attempt to develop a danseuse or concert artist, but to equip her to enjoy life. If she should care for neither, well, the world is full of interesting hobbies and callings, at least one of which can be hers. In none of this, however, should the idea of compensation ever be made manifest. The instant a child gets the impression that he has some deficiency for which he must compensate, the honest joy of accomplishment is lost in the bitter determination to succeed, "to make up for," "to show 'em!" Such overcompensation may produce geniuses, but a genius is seldom a healthy, happy addition to any family.

Here again are our five resolutions for the rearing of a runt: 1. Endow him with a nickname of your own, if you want him to escape more libelous ones. 2. Develop such a convincing attitude of size-indifference that he will assume it for himself. 3. Give him his rightful share of new clothes. 4. Don't let him skip grades in school. 5. Provide him with suitable means for self expression, but guard against overcompensation.

I have not attempted to list these in the order of their importance because one is as vital as another in the development of a serene, mature, indifferent attitude toward size. Every point in our plan is closely related to every other point, and the success of one will depend to a large extent on the success of the others. All of them depend on tact and common sense.

Would that this were a magic formula which could guarantee a blissful existence for all undersized creatures. There is no such thing. But I do believe that this set of ideas based on the vivid experiences of a runt can make life easier for other runts—and the parents of them.

Does nature or nurture mold your personality? Are you a product of your environment or your heredity? Which of your characteristics will be passed on to your descendants? Such questions as these are answered by
RICHARD F. TRUMP

Where Do You Get Your Brains?

WILL your children inherit your intelligence or lack of it? Will they have the same personality traits that you have? Why does delinquency and crime sometimes "run in the family"? Are we taking dangerous chances when we adopt an orphan of unknown ancestry—a tiny infant whose potential mentality and disposition we do not know? Can we hope for race improvement through controlled heredity?

For thousands of years parents have asked themselves these questions, but only recently has science begun to answer them with confidence.

It is the old, old problem of heredity and environment, and for ages men have argued one side or the other, citing isolated examples and talking about little chips coming off old blocks.

Parents—and scientists too, for that matter—were not greatly enlightened when in 1900 some one uncovered the writings of Mendel, the Austrian monk who made history by growing garden peas. In discovering that the progeny from cross breeding will reveal their parents' characteristics in definite and predictable ratios, Mendel founded the science of genetics. But it was soon obvious that inheritance in human beings is far more complicated than in peas. Even though governed by the same basic laws, human heredity depends on too many variable factors, and scientists could not predict with confidence what sort of chip would come off the old block.

Another hope of solving the heredity-environment problem came when investigators began to probe into the histories of families that were notoriously delinquent or famous for their achievements.

Dr. Henry H. Goddard, for example, studied the progeny of a lazy New England vagabond, Max Juke, and found the following record: 310 professional paupers, 440 badly diseased, 50 prostitutes, 60 thieves, 7 murderers and 53 who had committed other criminal offenses. Fortunately, about 300 had died in infancy. Remembering that the blood of Max Juke was in every one of those social parasites, people said that heredity was responsible. Like bred like!

But a group calling themselves *behaviorists*, under the leadership of John B. Watson, detected a flaw. They pointed out the fact that

a baby Juke was reared in a Juke home, taught by Juke parents. What if he were reared in the home of a doctor or minister? Perhaps all those Jukes had been trained to be paupers and thieves!

Watson was so bold as to boast that if he were given a newborn child he could make of it, at will, either an idiot or a genius. Naturally a deluge of argument followed. And out of it came the realization that, after all, the Jukes and Kallikaks with their degraded past and the Edwards with generation after generation of leadership were just as good evidence for environment as for heredity. More important, perhaps, was the stimulus to experiment: These persistent questions must be answered, for on them hung one of the hopes for improving the human race.

But as long as the experimenters were unable to separate the effects of heredity from those of environment, arguments meant little. So they searched for methods of holding one of the factors constant; they reasoned that if two individuals have the same inheritance, any differences must be due to their surroundings or training. Or if their environments are identical, then the differences must be due to heredity.

One of the most obvious attempts to solve this problem is to assume that brothers and sisters, having the same parents, naturally have identical inheritance. If this were true, then nurture must cause the differences we see between the members of one family. But geneticists quickly called a halt to the logic, pointing out the fact that brothers and sisters can have very different combinations of the hereditary units, called genes. When you thoroughly shuffle a deck of cards, you haven't much chance of dealing out the cards in exactly the same order twice. And you are far less likely to deal out the same inheritance to two of your children.

Then if heredity is different among brothers and sisters, why not assume that environment is constant and conclude that the differences are inherited? Take an example: Harry, 13, is a stubborn boy who believes that the world was created for his own pleasure. Intelligence tests indicate that he is above average in mentality. His brother Charles, three years younger, is in many ways a contrast to Harry. With a slightly lower I.Q. [mentality rating], he gets school grades better than Harry's. He is shyer, less self assertive; and being more introvertive, he requires less companionship.

Here are two individuals living in similar environments. Did they inherit their contrasting personalities? The answer is yes, if their environments are *identical.* But here the psychologists interfere, claiming that the environments have differed from the very beginning.

One of orphaned twins, Ruth was adopted by a poor family. Her personality contrasted sharply with that of—

Harry had no brother until he was 3; Charles has always had one. Harry's brother is younger than himself; Charles' older than himself. The parents had changed after three years, and during their first years especially the boys were not

Mildred, her twin sister, who was bright, alert and more adaptable in her more fortunate adoption.

treated alike. Family finances had changed. The boys had different playthings at home, different teachers at school.

In a word, although under the same roof, they are growing up in different worlds. So who can say whether it is nature or nurture molding them into different beings?

Through one of nature's strange accidents, however, we may deal out the same inheritance to two of our children. A fertilized ovum may rarely split into two separate parts instead of producing a single embryo as usual. The result: identical twins! Always of the same sex, they are more like each other than they are like themselves. For it has been found that every one has slight differences between the two sides of his body. But while the right side of one twin may differ from his own left side, it is identical to the left side of the other twin.

Suppose, then, that two of these identical individuals are separated early in life and that they grow up in contrasting environments. Will they remain the same in personality, intellect and physique? Or will they be changed by their surroundings? Here at last we have a scientific check on the old argument.

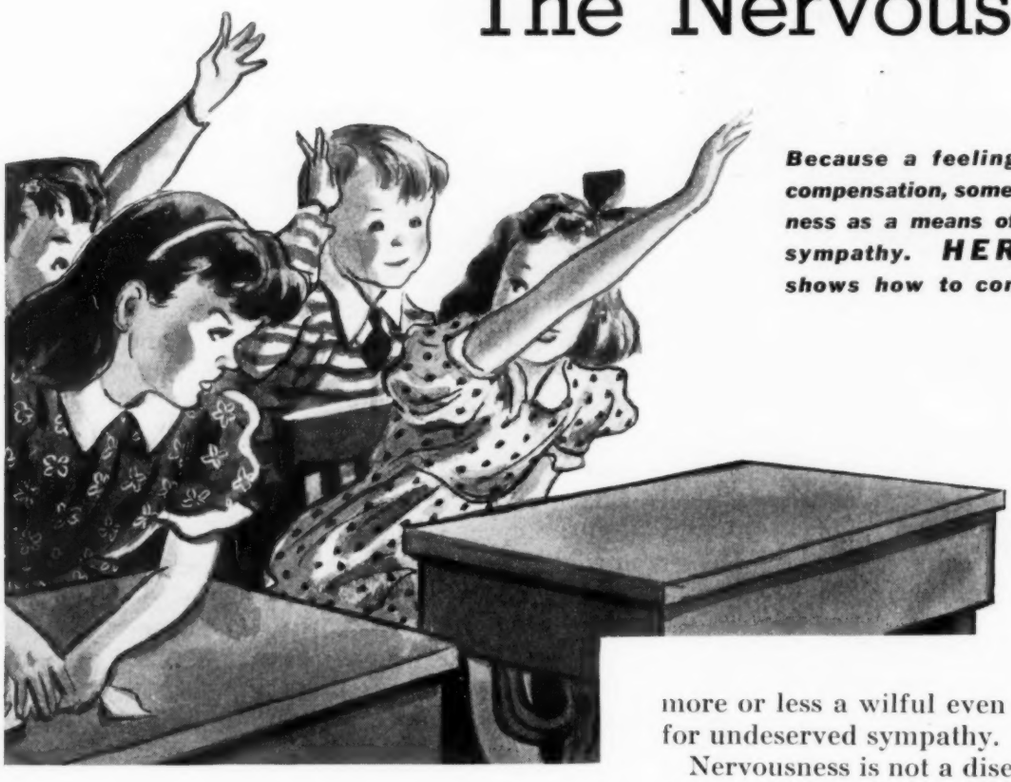
Among the scientists who tackled the heredity problem in this way was H. J. Muller. He tested a pair of twins when they were 30 years old, having been separated at the age of 2 weeks. Although they saw each other at 18, they were separated nine tenths of the time from then on until they were tested. Still similar in appearance, they had suffered from tuberculosis and nervous troubles at the same time. Muller found that although they were practically the same in intelligence, the greatest differences were in their emotional and social attitudes.

A pair of twin boys studied by H. H. Newman lived in different environments—one in the country and the other in the city. As in the cases of Muller, they still had similar intelligence but contrasting personalities. For two other pairs, however, the results were just the opposite—similar dispositions but varying intelligence.

The most recent and thorough study of twins is the cooperative work of a biologist, a psychologist and a statistician. Pooling their different points of view, Newman, Freeman and Holzinger tested many pairs of fraternal twins and unseparated identical twins, as well as the nineteen pairs of identicals who had been separated since birth. To unravel all their systems of comparison is not necessary. They found that the differences between identical twins were in proportion to the differences in their environments.

When identical twins live together, teachers are often unable to distinguish between the two, on the basis of personality, intellect or appearance. But notice the case of Mildred and Ruth. Beginning as a single cell, they were born as nearly alike as nature could make them. Then Mildred was adopted by *(Continued on page 1053)*

The Nervous Child



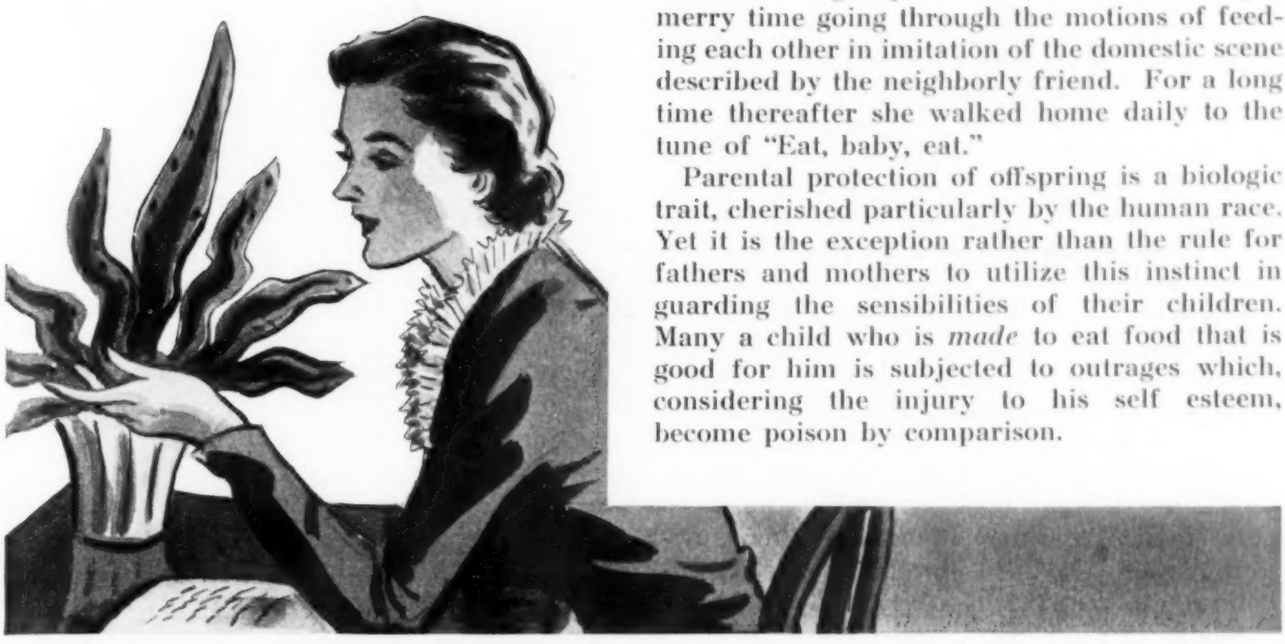
***Because a feeling of inferiority** needs compensation, some children adopt nervousness as a means of drawing attention and sympathy.* **HERMAN M. JAHR** *shows how to combat this intelligently*

TO INCLUDE "nervousness" in a discussion of bad habits may appear odd. Indeed parents often rebel against this simple classification of such a complex condition. The seriousness of the statement, "My child is nervous," is perhaps entitled to a more dignified place; yet do what one may, nervousness in the vast majority of cases, judging from the nature of its development, does not fit into any other category. There are, to be sure, many children who are born with an oversensitive nervous system, whose level of reaction therefore may be somewhat more delicate than is considered normal. However, the vast majority of nervous youngsters have simply cultivated the condition and cling to it for the sympathy and attention that it brings. In justice to these children it must be emphasized that the habit is not that of a conscious effort to occupy the center of the stage as in the case of the whining child. Rather is it an expression of a cultivated belief of inferiority in the individual. And an inferiority feeling needs compensation.

Nervous people are as a rule unadjusted people. While in the ordinary sense the condition is accepted as that of helplessness, there comes a time when those around the victim lose patience with him. He becomes annoying, and then he is referred to as neurotic. This designation implies not a state of helplessness but more or less a wilful even if uncontrollable bid for undeserved sympathy.

Nervousness is not a disease; nor is it a condition in which the individual purposefully and consciously chooses to advance himself by means of his undesirable conduct. It is a state of mind in which a person has cultivated the habit of obtaining sympathy and attention by means that disregard convention, propriety or the possibility of self injury. Nervous persons are as a rule not born that way. Using the term in the popular sense, their nervousness has been talked into them in childhood. And in their early years they enjoyed it so much that they cultivated the disability until it became a habit. Their parents probably hoped that, as time passed, their children would outgrow their nervousness. Instead, the handicap grew to be a part of their personality. There are millions of them. They abound in all levels of society. How did they get that way? In answer let me cite several examples.

Harriette Jenkins was seen by a doctor some thirteen years ago when she was 14 years old.



of feeding her by spoon when a neighbor walked in. The following day when she entered the classroom a group of children were having a merry time going through the motions of feeding each other in imitation of the domestic scene described by the neighborly friend. For a long time thereafter she walked home daily to the tune of "Eat, baby, eat."

Parental protection of offspring is a biologic trait, cherished particularly by the human race. Yet it is the exception rather than the rule for fathers and mothers to utilize this instinct in guarding the sensibilities of their children. Many a child who is *made* to eat food that is good for him is subjected to outrages which, considering the injury to his self esteem, become poison by comparison.

She was an "extremely nervous girl," her mother stated at that time. As an infant she had suffered from colic and other forms of indigestion which yielded to nothing but constant rocking and other similar forms of attention. The long dissertation on Harriette's childhood was followed by a detailed description of her present status: She eats poorly; her sleep is restless and fitful; she shows little interest in school work; she bites her finger nails constantly. Any effort at correction brings forth resentment and rage.

It was evident that Harriette had had little training in discipline and even less in the art of consideration for others. She was bright and attractive, but her attitude was hostile. There were few friends; she did not care for any one in particular. Although she made an excellent showing in the various mental tests, her school work was below average. Her outlook on life was somewhat below that suitable to her age and intellectual rating. The attitude toward herself was that of discouragement. The indifference to her poor social standing was only superficial. Beneath her bravado was a feeling of inadequacy and helplessness.

Hesitatingly she related her difficulties. She was a misfit in school because she could not mix with her classmates. The teachers considered her lazy. At home she was always looked on as "nervous" although her parents spared no effort in "picking" on her. Mealtime was an ordeal. She recalled one episode with particular pain. Her mother was in the process

Life to Harriette was a struggle mainly because she had no preparation for it. Sheltered from responsibilities, she never learned the rules of the game, and the give-and-take philosophy was never known to her. It was only to be expected that she would have trouble in school. She did, and from the very start. She refused, or probably she did not know how, to follow directions. The other children in the kindergarten considered her a nuisance. They were impatient with her. She, in turn, learned to sulk because she could not have her own way. To her mother this lack of discipline was a manifestation of nervousness.

When Harriette entered the first grade the situation changed immediately. She became enthusiastic over everything, including the home atmosphere. She had a good appetite; she played nicely with other children, and she even stopped wetting the bed. The year was a complete success. Harriette was, according to her mother, the best pupil in the class. The enthusiasm was maintained through the second grade and lasted until the middle of the semester in the third, when she began gradually to daydream. With her loss of interest in school there was also a loss of appetite. It was at this time that her mother, "rather than have her starve," resorted to the infantile method of feeding. The fateful visit of the neighbor occurred shortly thereafter.

The reason for the loss of interest in her school work was quite evident. One often sees youngsters with high intelligence quotients who

are failures in school. Both the subject matter and the method of instruction become too simple to hold the child's attention. Unless his time is occupied with suitable functions his energy soon drives him to activity or inactivity, which is usually not in accord with scholastic decorum. During the period of misbehavior he misses out on the essentials of the subject, and later when called on to recite he actually knows less than the average pupil in the class. He is soon labeled as lazy or even of slow mentality.

Harriette had an intelligence quotient of 110. It is logical to assume that her loss of interest in school was based in a great measure on the simplicity of the work. Indeed her mother stated that she could read fluently at the time she entered kindergarten, and when she was in the third grade she could quote long passages from classic literature. School routine, however, remained a hardship; but between promotions and repetitions of grades she finally succeeded in graduating.

At the age of 14 years she entered high school. Because of her superior mental endowment it was felt that academic success might lend considerable encouragement and thus lighten her emotional burdens. In view of subsequent developments this prediction was only partly realized.

Harriette graduated from high school with honors. Not only was she an excellent student but an outstanding personality as well. She was popular with pupils and teachers alike. College also was a pleasure, what with good grades, interesting subjects and extracurricular functions. Again she graduated with honors. In addition she received a teaching fellowship in history. At the age of 22 she was happily married.

Harriette Jenkins is now Mrs. Frank Shelton, the mother of Frankie, Jr., 4 years old, and Jimmy, aged 2. I have known the two children practically from the day they were born. In spite of their record of perfectly normal development, Mrs. Shelton follows her traditional complaint: "My children are nervous. They are restless, and fidgety about food. Junior stutters and wets the bed, and Jimmy has temper tantrums." There are many other complaints too numerous to mention. She keeps a notebook for the purpose of describing in diary form their manifestations of nervousness. Thus far the pages contain not a single item of significance. They are following a smooth course of behavior, investing their childish energy in constant activity.

Reasoning with Mother Shelton appears to be of little value. She insists that she knows her children, and say what one will, they remain, in her opinion, "nervous." Far from profiting by her own juvenile experiences, Mrs. Shelton is duplicating the methods used by her mother in forcing nervousness on her children. Pathetically the older boy is beginning to enjoy his maternal worries; and unless, by some unexpected miracle, Mrs. Shelton changes her attitude, her children are certain to have nervousness talked into them by the same process that their mother had had nervousness forced on herself.

Many children who are looked on as nervous are suffering merely from prolonged tiredness resulting from overwork. It is true that children have what to adults appears an inexhaustible store of energy. The fact is that most children do poorly under exertion, be it physical or mental. Strain soon reflects itself in tiredness, restlessness and irritability.

Jane Talbert is a good example of this condition. When Jane was 11 years old her mother noticed an increasing irritability. She had always been a model child, but of late she had become cranky. She cried easily; she had many fears; she had lost her appetite, and the slightest provocation sent her into uncontrollable weeping. The school authorities suggested that the child was extremely nervous.

An analysis of the girl's program revealed that between her duties at school and her extracurricular tasks the child had about one-half hour a day for play and diversion. Thus in addition to doing her sixth grade work she had lessons in piano, elocution and dancing. To the regular lessons must be added practice in these arts. "But she loves to do these things," the mother argued, "and she never complains of tiredness." Jane herself denied any feeling that she could interpret as tiredness. As proof against this contention she stated that following her dancing lesson she felt refreshed.

One of the most interesting types is the youngster who is labeled nervous because of his inability to progress with his class. Many youngsters are slow because of mental retardation, and they are recognized and acknowledged as subnormal in their development. They are accorded certain accommodations in school, and similar allowances are made at home.

There are however many children who are on the intellectual borderline, their capacity of achievement shifting from low average to inferior. Because of their changing moods they are frequently not rated *(Continued on page 1013)*

NEW BOOK ABOUT VITAMINS

"The Vitamins" is an important collection of information on a subject that is becoming increasingly important itself, as each month, each year, new data on vitamins and their intimate effect on our lives is discovered and compiled by science. This unusual book—the "last word" on vitamins—is a comprehensive opinion of America's thirty best vitamin chemists. Just published by the American Medical Association, "The Vitamins" sells for $1.50.

The enthusiastic review which Time Magazine published about this book in its October 2d issue is reprinted herewith.

Like the old woman who lived in a shoe, the medical scientists who housekeep for vitamins have an unmanageable lot of charges. At present, for example, chemists believe that there are at least eight varieties of vitamin B, at least ten of D. One member of the vitamin B family is also known as vitamin G, another newcomer as factor Y. Two relatives of the C tribe are known as J and P. Most practical name-calling, so far as scientific convenience is concerned, would be to recognize each vitamin by its chemical name. Thus vitamin E would be known as alpha tocopherol, C as ascorbic acid, B_2 as riboflavin. But since the word vitamin is as popular with laymen as "calory" once was, chemists will probably continue in their alphabetical way until they bump into Z.

Even more confusing than the names of vitamins are their functions, for they have a vital effect on practically every organ in the body, are related to a score of diseases and deformities, ranging from diabetes to bow legs. As a guide to vitamin genealogy, the American Medical Association last week published a detailed handbook compiled by top-notch U. S. vitamin chasers, giving the last word on vitamin chemistry, deficiency diseases, treatment. Interesting facts:

Most versatile of the brood, **Vitamin A** is the only one which is synthesized by animals from their plant food. It is found in the livers and yellow body fat of most animals, can be stored up by man for many months. For adequate production and storage of vitamin A, a diet should be abundant in "thin green leaves," bright yellow fruits, vegetables such as carrots, corn, sweet potatoes. Vitamin A prevents night blindness, a failing as common in the U. S. today as in ancient Egypt, where diet-wise physicians cured thousands of cases with liver. Few persons realize that vitamin A is the most important of all vitamins for proper tooth formation in growing children, and for resistance to infection. It is also vital for healthy tissue development of sex organs.

Richest source of anti-scurvy **Vitamin C** is oranges and lemons. But in times of war or famine, suggested Biochemist Otto Arthur Bessey of Harvard, almost any kind of seed, kept in water until it sprouts, and then eaten raw, is an excellent substitute. The vitamin has some strange relationship to metabolism, for manual laborers and athletes need large quantities of C-rich foods. Another little-known fact: The vitamin mysteriously disappears from the bodies of tuberculosis patients. Victims of diabetes, when given large amounts of vitamin C, usually require smaller doses of insulin.

Essential for the prevention of rickets in children, **Vitamin D** regulates the amount of calcium and phosphorus which the body uses for building bones and teeth. Only vitamin which does not originate in plant tissue, vitamin D occurs most abundantly in oily fish livers, is generated in the body by ultraviolet rays of the sun. Normal U. S. adults get all the vitamin D they need when they bask on beaches, and, if they drink plenty of milk, need not worry about calcium regulation. But to make best use of the calcium in their diet, pregnant women and children need extra amounts, must take daily doses of cod liver or halibut liver oil. Of the numerous commercial foods fortified with vitamin D, "only milk needs to receive serious consideration." Best type of fortified milk is "metabolized milk," drawn from cows which are fed irradiated yeast.

Very little is known about the function of **Vitamin E,** found in wheat germ oil, lettuce and tomato oils. Certain it is that lack of this vitamin, as well as vitamin A, damages male reproductive tissues, produces abortion in the female. Although large doses of wheat germ oil have proved effective in stopping habitual abortion in pregnant women, Chemist Henry Albright Mattill, State University of Iowa, cautiously concludes that until more evidence is available, "attempts to produce a market for wheat germ oil among prospective parents generally are to be deprecated."

HOW TO GIVE COD LIVER OIL—

In some homes, a family fight surrounds each dose of "vitamins in oil." This will not be characteristic of your home, if you adopt the technic of

IRVING J. WOLMAN

"MY CHILD hates cod liver oil! We've tried threats and punishment, rewards and ridicule—all without success. It wasn't until we refused to buy a new bicycle that he stopped running away when he saw the bottle coming, and he's almost 9 years old! When he was in the baby carriage stage we used to squeeze his nose until he cried for breath, and then in would go the spoon! He would sputter and choke and often would cough for an hour afterward.

"How does one give cod liver oil anyway?"

This query with its problem are all too familiar. Every doctor's office and every afternoon bridge table has heard its repetitive burden many times. What should a parent do when a child rebels at taking cod liver oil? Should one force it on the child or search for some substitute or just forget about feeding it in spite of the doctor's direct orders?

First, I wish to emphasize that the vitamin D of cod liver oil is one of the physiologic factors necessary for the development of well built bones and sound strong teeth. It is needed most during infancy and again in puberty, the two periods when growth is proceeding most rapidly. The vitamin A content is less essential, since under conventional American eating practices, the daily diet contains an adequate supply.

We cannot blame the child for his rebellion, for the average grown-up never takes cod liver oil willingly. Its smell is fishy, and its unappetizing flavor lingers in the mouth. Nausea, gastric distress and after-taste are common complaints. It is no accident that 90 per cent of the vitamin D preparations which adults buy come contained in capsules.

When fresh, the oil can be almost tasteless and rather palatable. Contact with air gives rise to the rancid changes. The offensiveness which attends the usual household bottle has been traced to the action of room air on oil films left carelessly on the outer surface. Odor and taste can be reduced to a minimum by wiping the cork and bottle neck clean after oil has been poured out and by storing the bottle in the refrigerator.

Strangely enough, the majority of infants and children enjoy cod liver oil and swallow it with gusto, to the perennial surprise of the adult members of the family. Such children have usually been initiated to the oil in the first few months of life, when taste perceptions are immature and when almost anything placed in the mouth calls forth the normal swallowing reflex. The use becomes a habit which holds for years. However, if oil is not given until later, when taste discriminations are more fully developed, the older infant may register apparent backwardness and repugnance at the first introduction. This behavior merely indicates recognition of a new, unusual taste sensation having a peculiar thick consistency. Older babies can detect the slightest alteration in the flavor of their diets. For this reason children should be trained to take cod liver oil at the earliest possible age.

With some children, the oil itself may not be fundamentally unpleasant, but resisting may be based on the child's unconscious discovery that in resistance he possesses a weapon powerful in family conflicts. A child, even one under 12 months, can use refusal to eat as a means of individual personality expression. In other instances, compelling a child to swallow one objectionable substance can provoke retaliation in the form of a refusal to eat other articles of food. The initial distaste for cod liver oil may

Black Box, N. Y.

Strangely enough, most children enjoy cod liver oil and swallow it with gusto, to the perennial surprise and pleasure of the adults in the family.

mark the beginning of a show of dislike for foods generally.

Whatever its original basis may have been, a daily combat over cod liver oil, if repeated often enough, can develop into a permanent habit, deep seated and almost impossible to break down. As with so many other behavior habits, the wise parent will give thought and understanding to the problem in its early stages, in order to prevent the development of a permanent mood of conflict in the child, with possible later spread into the broader realm of other home activities. The normal serenity and peace of a child's home may be haunted by the recurrent conflict over cod liver oil, which becomes a focal point of antagonism between parent and child. Who can say how much unrest and needless fear have been injected into the souls of sensitive children by consequence of such daily fights? These emotional aspects are as highly important as, and of more common occurrence than, the possibility of physical injury during the act of feeding.

A child should *never* be compelled to swallow oil by the use of brute force. No matter how firmly he is being held, the youngster will continue to resist by pressing his lips together, clenching his jaws and refusing to swallow.

The choking and gagging which inevitably result can sometimes drive oil down into the chest. This danger exists not only with cod liver oil but with other oils as well, such as olive oil, castor oil and mineral oil. These oils become deposited within chronic scars inside the lungs, which require months and even years before they heal and disappear. Oily nose drops continued over long periods can also work their way downward. The condition, medically termed "lipoid pneumonia," has an unfavorable effect on health, appetite and state of nutrition. Weak babies, premature infants and crippled or ill children seem especially susceptible.

Is there risk of lipoid pneumonia if a baby takes cod liver oil willingly? Not if the oil is given properly. Place him in a sitting position. Use a blunt teaspoon. Feed the oil slowly, pressing the tongue tip with the spoon. Catch and refeed drops which drool from the mouth corners. Be gentle, slow and cheerful. Oil is often given just before the bath, when the baby is completely undressed. An old bib will catch stray drops and prevent odorous stains on clothes and bed linens. Under no circumstances pinch the nostrils or do anything which may create excitement or alarm.

On the day when oil is first fed to the young baby, patience, understanding and encouragement are most necessary. Clumsiness in swallowing or spontaneous hesitation at the new sensation may be misinterpreted as distaste and rejection. If the first few spoonfuls are given properly, there need be no further difficulty. It is well to offer but a drop or two on the first day. Increase the daily allowance gradually until the desired intake is reached. If he remains uncooperative or refuses to swallow oil from a spoon, do not stir up a conflict. Float the oil on orange juice or mix the two together; the sweet fruit flavor may sufficiently obscure the oily taste to overcome all objections. Try various hours of the day, such as before breakfast when he is hungry or before dessert at dinner time. Praise proudly the first few days' efforts, but do not make a habit of giving prizes and rewards. Incidentally, it matters not whether the day's requirement of oil is taken in divided doses or all at once.

When an older child in the preschool period is given oil for the first time, the proper psychologic approach on the part of the parent or nurse becomes most essential. Oil should be presented as a new and good food, as a treat, not as a medicine. If the parent herself doesn't like cod liver oil, this must be carefully concealed. A cheery word and confident manner are the best assets. Sometimes a preparation of oil artificially flavored with mint or other aromatic substances proves quickly acceptable.

When the child, growing older, tires of the cod liver oil flavor or when the oil produces digestive disturbances, as happens on rare occasions, or if there is encountered some other difficulty in the use of cod liver oil, the child's doctor will turn elsewhere for the cod liver vitamins. There are many choices.

"Concentrates" are most popular at present. A great number of different brands are offered by the various pharmaceutical houses. These are derived from other fish oils or extracted from raw cod liver oil. Some are largely vitamin A; others contain vitamin D exclusively, and many consist of the two vitamins in varying proportions. Their dosages are measured in drops instead of in teaspoonfuls. The liquid concentrates are swallowed much more easily by children than are the bulky rounded capsules. Speaking broadly, the cost of concentrates or specially flavored oils is somewhat higher than the simple cod liver oil of the U. S. Pharmacopeia standard quality.

Other sources of vitamins are available. As mentioned earlier, vitamin A is present in many foods normally served at the household table. Vitamin D occurs naturally in egg yolk. Moreover, as is well known, direct exposure of the child's body to sunlight or bright "skyshine" or to special lamps under carefully controlled circumstances has the same beneficial effect as directly feeding vitamin D.

A satisfactory source of vitamin D is the so-called "vitamin D milk." Ordinary market milk contains only small amounts, but large quantities of the vitamin can be imparted to it by irradiation with ultraviolet light, by feeding irradiated yeast to cows or by adding "concentrate" directly to the bottle. An appreciable intake of this enriched milk—from a pint to a quart—is required daily, depending on the child's age and physical condition and on the method by which the milk has been fortified.

In conclusion, may I emphasize that for optimum growth and development, every growing infant and child should receive cod liver oil or some adequate substitute. In view of the wide and confusing range of possible equivalents of different potencies and correspondingly great variation among individual children, interested parents should consult their attending physician for guidance concerning their child's requirements, asking specifically as to the quantity of vitamin units needed, the form in which these should be obtained and the proper methods of administering these vitamins to the child.

Wonder Stories of the Human Machine

GEORGE A. SKINNER
draws an apt comparison between the popular motor car and the human body

II: The Running Gear

AS THE AUTOMOBILE is essentially a machine of movement, so is the human body. In order to transform power into movement, there must be some sort of mechanism for utilizing this power. The most primitive mechanical forms did not include the wheel at all, for this was a later invention. But long before wheels were used, power was most beautifully applied to the human mechanism. We have seen how admirably adapted this human framework, or skeleton, is for motion, as is the running gear of the automobile. But like the latter machine, the framework is not of much use until it is supplied with some method of movement. The value of the automobile lies in the wheels and their various accessories when properly attached to the body and connected up to the power plant. Likewise, it is the muscular system and its accessories that supply power to transport our bodies from place to place and convert static energy into dynamic energy. While our legs are principally concerned in our transportation and are the parts we think of as our running gear, they are really only a portion of it, for practically every muscle in the body is in use when we are walking or running. So the whole muscular system may be regarded as the running gear of our bodies. It is a beautiful and efficient machine, if somewhat complicated.

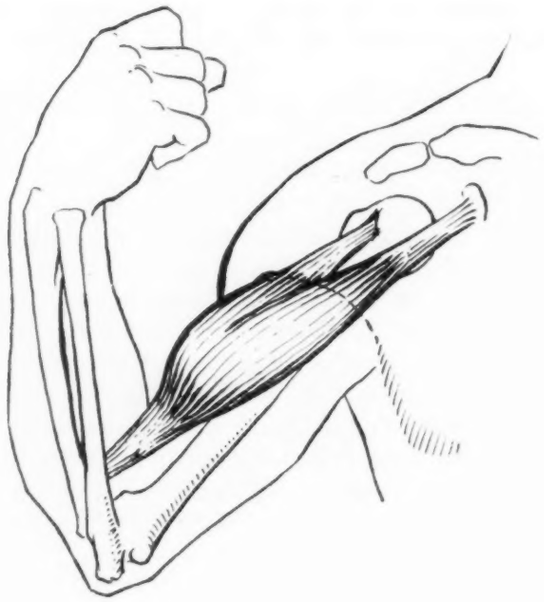
We have seen that the bones most concerned in movement of the body are principally the "long bones." Speed requires either a relatively small amount of large-sized motion at one time or very rapid short motion many times. Our early automobiles utilized the first plan; they adapted the large wheels from the old buggies and wagons and hung the body high up. But we had poor roads then, and often the ruts were deep. So, in order to have proper clearance, the cars had to be pretty well off the road. Later models have utilized the second method, and we now see the autos with small wheels, low hung bodies and the wheels revolving so

rapidly that they appear stationary. This change has been made possible through the widespread construction of pavements in all parts of the country, and on such roads these small wheels and low hung bodies are ideal. But if they get out on the old type of roads or find muddy detours, this form of structure is completely useless and usually has to be pulled out by some other power than its own. Fortunately for us, nature does not bring out a newly designed human model each year, and we are still using the original form of running gear, legs of greater or less length and body of rather high suspension. Some think their gear is too high, and some kick because they are too low hung; but the average is excellent. It is still the most efficient running gear yet devised, and man is able to go places and do things because of this remarkable structure that no other animal or machine can duplicate. Some machines can go faster and further; some are much more highly specialized along certain lines; but for all around everyday uses, a human body properly cared for and in good condition is still the premier machine of the world.

The engine power of the automobile is applied mostly through various forms of gears, although belt and chain drives are still used in some special machines. These gears when properly cut and meshed are marvelous to behold and produce results that are startling. But at their best they are crude and noisy compared to our muscular system, which produces motion with speed, accuracy and power entirely without noise and will outwear many times the best machine ever made. It does have the property of repairing itself, which no other machine has, but we will get to that later.

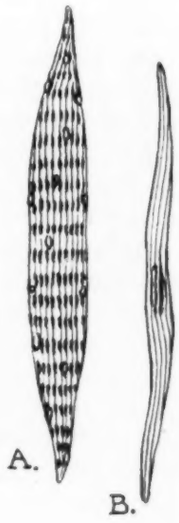
As gears and wheels on autos have different functions to perform and are consequently made of different materials and forms, so we find our muscles differ in shape, size and structure according to the work they are required to do. Some muscles are in use only occasionally when we will them to move but require great power when they are called into action. Such are the thigh and leg muscles, for they not only must carry the body around, but they may be called on to lift it many hundreds of feet in a comparatively short time, a feat that requires enormous power. This is what these muscles were designed to do; but if we keep on using automobiles instead of walking, these great muscles get discouraged. For lack of use, these muscles will not function well, and we complain that we have lost our "pep." Muscles must be used more or less regularly to keep up to their best, and in that they are like machinery. No auto that has stood in a garage for weeks without running can be expected to be of much use until it is overhauled, its battery recharged, new oil put in various parts and the whole machine limbered up. While the parts do not actually "atrophy" or waste away, as do human muscles, they do worse: They rust. Nothing is so destructive to machinery as inaction and neglect, and in that it is exactly paralleled with its human counterpart.

The biceps muscle in the arm. The size of any muscle is almost in direct proportion to its power.



A Fiber of the voluntary muscle, showing tiny cross markings which cause the muscle to appear striped, or striated. This is a component fiber of the muscles that activate the skeleton.

B Fiber of the involuntary muscle, which is called smooth, or unmarked. Muscles composed of such fibers contract independently; as, for instance, those in the walls of the heart.



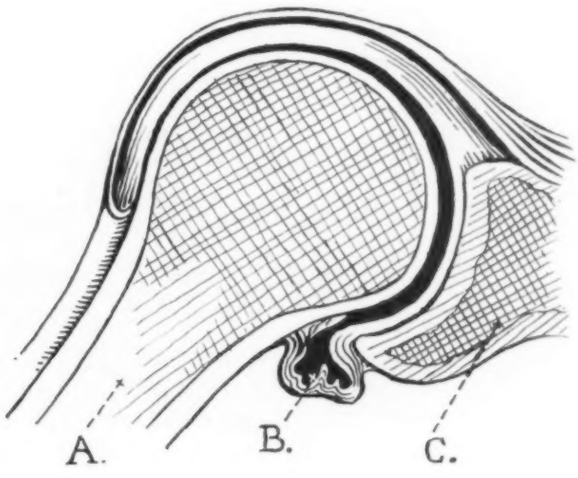
In the marvelous human machine certain parts are automatic, and this requires a special type of muscle which can work constantly and independently of any conscious control from the body itself. Then there are some other muscles that are a combination of the two, that is, they may be controlled for a time; but if this control is continued too long the body is likely to be damaged, and before this happens the function becomes automatic. We may breathe rapidly if we wish, and we can hold our breath for a considerable period of time. If one has will power enough he can hold his breath until he becomes unconscious, but when he faints the breathing is resumed normally again, entirely without his control.

The muscles that are automatic or involuntary are called smooth, because under magnification the fibers look long and straight, without cross markings. The muscles that we may move when we wish, the voluntary muscles, have many fine lines running across them and are called striated or striped muscles. Many functions involving muscular movements are taking place constantly, and we have no knowledge or control of them. When we eat food, the voluntary muscles of the jaws break it up into suitable size for chemical action in the body, and we start it down our digestive tract. Then we lose control of it completely, and it passes through the esophagus into the stomach and on through the digestive tract and is absorbed and used by the body. All this is done by involuntary muscles. If we walk, run, take part in athletics or do one of the many other things so common in daily life, we are using largely voluntary muscles.

In order to produce movement, the muscles contract or shorten. They have only this one way of acting, so that if we are to have complete action there must be two or more sets of muscles to create it. Engines also have this method of utilizing force. Either the force is applied first to one side and then the opposite side of a piston, or enough pistons are used so that the power is applied to each one in succession to produce a continuous motion. If we stretch an arm out straight, it is done by one group of muscles called extensors, and if we bend it as far as it will go, we are using another set of muscles, the flexors, to their limit. Other muscles by contraction produce rotary motion, as in the eyes or at the shoulder or hip joints, and still others a twisting motion, as when we turn the head, the back bone or the ankle joint. But all the motions are produced the same way, by muscles contracting. They may then relax and return to normal position, as a rubber band would, or else are pulled back by the contraction of an opposing muscle. Thus, a wonderful system of coordinate contractions among different groups of muscles is built up that results in motivating all parts of this remarkable running gear of the human machine.

The size of the muscle is almost in direct proportion to its power. Hence, we have the big muscles of the legs and arms, the back and over the abdomen, as these muscles are required to handle big loads and do much work. Such

The tendons in the back of the hand. If suddenly overworked, as in heavy labor where the hands are in continual use, these tendons become rough and painful.



Every joint is tightly enclosed and moves smoothly in a constant bath of oil. This joint is between the bone in the upper arm, A, and the shoulder blade, C. At B is the joint cavity where the lubricant is enclosed.

muscles are not expected to act with as great a speed as the shorter and smaller ones, which are similar in principle to the construction of the framework; where the bones are small and short they are usually speedy, and it is reasonable to expect the opposite of the long ones.

The bodies of the muscles are of soft material, real meat, and would not stand the strain of work if they were attached to the bones in this form. So we find that the muscles are largest nearest the middle, taper toward either end, change in composition as well as in form and become tough, white and glistening. This material we call tendon. In this form they take up much less room and yet are so strong that they are able to transmit the greatest power of the muscle to the bone, with less danger of tearing. They are attached to the bone directly by means of the tough membrane which surrounds each bone, the periosteum. The attachment is so secure that the bone will often break before the tendon will give way. Many of the so-called "sprains" are not so much injuries to the tendons as they are to bone pulled out of place or actual fractures clear through some portion of the bone. This is particularly apt to happen at the ankle joint, and one of the tips of the bones forming that joint is much more likely to give way than the tendon is to tear. This wonderful structure is highly resistant to injury; but if it is injured, it heals slowly, as there is not much blood supply to carry the material for repairs.

Whenever two materials rub each other there is certain to be friction, and friction produces heat and reduces the ease and speed of motion. Human skill has spent much energy and thought in reducing friction. One method is to make the moving parts as smooth as possible. Even with the use of great precision, metals we consider smooth contain many small humps and hollows; these may be seen when examined under magnifying lenses. To keep the surfaces apart as much as possible and to fill in these little rough places we supply a lubricant, usually some form of oil, which allows the parts to slide with much greater ease. Machines could be operated only at exceedingly slow speed if it were not for the lubricants. If oil is not constantly present, the metals get so hot that they eventually melt or expand, and the parts "freeze." To overcome our carelessness many of the modern auto parts are completely enclosed in oil-tight cases, so that the parts will always have oil. But our bodies have always had that system! Every joint is tightly enclosed and not only moves in a constant bath of oil but produces its own oil. Around these moving parts there is a small factory constantly manufacturing the necessary lubricant for it, and we find that the joint surfaces are marvelously smooth and slippery, always properly oiled in health and moving practically without friction. In addition, the tendons pass into tubelike structures, or sheaths, and these tendon sheaths are ideally lubricated also.

Under normal conditions we move and are never conscious of friction or that heat is being developed in the joint. But there are conditions when all is not so perfect. Injuries may partly drain or interrupt this perfect oiling system, or we may so overwork a part that there is not oil enough produced to carry on lubrication, just as we burn up the oil supply in our cars by excessive speed. Then we become acutely conscious of friction, because it causes much pain. This is frequently seen when overusing the tendons of the forearms and hands at the beginning of the harvest season on the farm or when too actively participating in athletic exercise at the beginning of the training season. The tendons become rough from the many repeated little bruises of overuse, and the lubricant fails. There is a tendency for the tendons to rasp on the sheaths or even to stick to them, and any movement causes acute pain. The same is seen, more exaggerated, in men who have been sedentary most of the year and then on vacations start out on long hunting trips. After a day or so they are likely to find that the big tendon at the back of the leg near where it attaches to the heel no longer glides easily but rasps and moves with difficulty and considerable pain, precisely as though two metal surfaces that usually glided easily had been allowed to rust. Fortunately, rest will usually restore normal conditions in a comparatively short time, but sometimes the irritations are bothersome and persistent. When exercise is started moderately and gradually increased, it rarely produces such conditions. It is the sudden excessive use of untrained muscles that causes the most trouble.

Up to a certain point the automobile improves with use. That is, we say it becomes "broken in." The parts become adjusted to each other, and use has made them smoother. This process is necessary with all machines, especially with those that are to be used at high speed. It is a wise thing for those who are fond of exercise to adopt a similar process, now generally used by college teams, of "warming up" before getting into severe or long sustained work. All body parts are better prepared for their work by this method, and even in youth, when the parts are highly elastic and can endure the strains, results are much better *(Continued on page 1044)*

FACTS

FRESH FROM THE OVEN, TO AIM AT FOOD FADDISTS

MOST people are diet-wise today, but there are, unfortunately, a few "food-faddists" who are still swayed by moth-eaten superstitions . . . such as the old-fashioned notion that white bread is automatically "fattening."

It is sometimes difficult to convince such people that no single food is fattening, and that, in themselves, two slices of bread at every meal will contribute only about 390 calories toward the usual daily requirement of 2,500-3,000 calories.

White bread can be, in fact, a proper part of modern *reducing* diets, and many physicians find this fine food useful for this purpose.

Fortunately, most normal people *like* this splendid and easily assimilated energy food, and need only the reassurance that it may be used in a well-balanced diet without producing "poundage," to enjoy its benefits to the full.

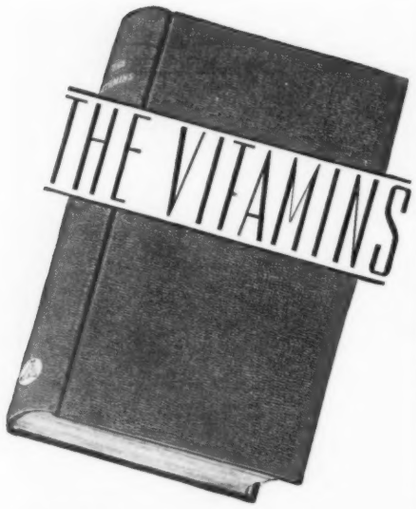
May we send you, without obligation, an authoritative reprint from "Hygeia," entitled "Our Daily Bread," which contains reliable facts concerning the food value of bread?

ACCEPTED AMERICAN MEDICAL ASSOCIATION

American Institute of Baking

DEPARTMENT OF NUTRITION

NINE ROCKEFELLER PLAZA • NEW YORK • N. Y.



A 637-Page Summary of Present Knowledge

More than thirty outstanding authorities in the fields of medicine, pediatrics, chemistry, biology and nutrition have given their best thought to the compilation of this book. Being technical, it obviously is not "for light reading," but will prove of interest and value to dietitians, nurses, teachers of home economics and health, and all scientific-minded persons who take their vitamins seriously.

TABLE OF CONTENTS

Vitamin A

Chemistry of, and Substances Having Vitamin A Effect; Physiology and Pathology; Pharmacology and Therapeutics; Methods of Assay and Sources in Food; Requirements.

Vitamin B

Components of the Vitamin B Complex; Chemistry of Thiamin (Vitamin B_1); Physiology of Vitamin B_1; Pathology of Beriberi; Therapeutic Use of Vitamin B_1; Methods of Assay and Food Sources; Human Requirements; Chemical Aspects of Riboflavin; Riboflavin — Physiology and Pathology—Dietary Sources and Requirements; Prevention and Treatment of Pellagra.

Vitamin C

Chemistry and Physiology; Pathology of Vitamin C Deficiency; Methods of Assay and Dietary Sources; Human Requirements; Pharmacology and Therapeutics.

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Chemistry; Physiology and Pathology; Determination and Sources; Human Requirement; Use of Vitamin D Preparations; Physical and Clinical Aspects of Ultraviolet Therapy.

Vitamin E and Other Factors

637 pages, 8½x5½ inches. Red imitation leather binding. Price $1.50.

AMERICAN MEDICAL ASSOCIATION
531 No. Dearborn St., Dept. V Chicago

200,000,000 COLDS! (Continued from page 972)

this legion are: atropine, aconite, menthol, eucalyptol and other drugs containing volatile oils, camphor, quinine, sodium bicarbonate and other "alkalizers," caffeine, bromide, aspirin and a host of salicylates, barbituric compounds, laxatives without number, terpin hydrate, fruit syrups, tar and honey. How much of which? We rarely know. We have to content ourselves with the statement that the preparation is "a carefully balanced scientific combination of effective pharmacological elements," or equivalent verbiage. We do know that it is unlawful for these preparations to contain codeine, which when properly used, is one of the most effective drugs in many respiratory infections.

Besides, are you sure you have "just a cold"? Your doctor has two great advantages in comforting you: He has a clear picture of your case and the choice of any drugs he needs.

Sprays and nose drops are next on the list. They are popular because they usually contain epinephrine or ephedrine. These drugs shrink the inflamed mucous membrane of the nose and pharynx. We feel better after using them and as long as the effect lasts. Unfortunately, they also decrease the action of the ciliated epithelium, those little hairlike projections which nature has provided to sweep out the secretions. Many physicians feel that the latter effect slows up recovery. However, it is recognized that under some conditions (the failure of the sinuses to drain, for example) these remedies have real value when used as they should be. Some drops contain neosynephrin, a synthetic improvement on ephedrine. This drug is a gift from Mars, the war god. It was developed as a result of the Chino-Japanese conflict which has removed ephedrine from the market. But I am not going to use these drops often. Like ephedrine, neosynephrin raises the blood pressure. My blood pressure is high enough.

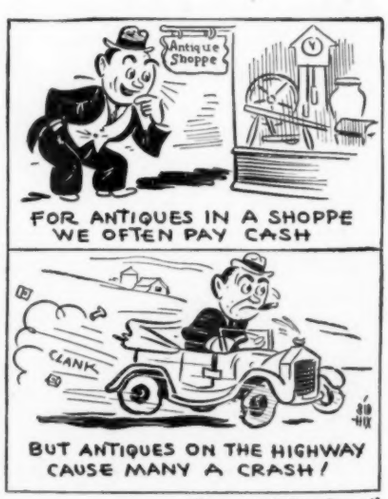
Inhalants depend for their action on many of the same drugs which are used in sprays and drops. Consequently all three methods are subject to the same uses and abuses. The added convenience of inhalants further promotes their abuse. The harm they can do may be serious.

The nasal douche, popular a few years ago, is passing into the oblivion it has long deserved. But it has not passed. Recently, at an Army school of higher education the students were instructed by the nonmedical colonel in command to prevent their colds (and coughing at lectures) by taking a nasal douche of borax solution every night and morning. Some of those who obeyed orders were rewarded by severe sinus infections. They merited the reward.

If the nose and pharynx formed a simple watertight piece of human plumbing, the nasal douche might be as justified as a face wash. But opening into the nasopharynx are the maxillary, frontal and ethmoid sinuses and the eustachian tubes with their communication with the middle ear and the mastoid cells. Do you wish to take the chance of washing a pneumococcus or streptococcus from the pharynx, where he may be harmless and domesticated, into these more vulnerable and vital spaces where he is likely to go wild? I don't. I have seen the results.

You know that the prevalence of colds increases in bad weather. True, you can do nothing about the weather. But if this article would stimulate you to do something about preventing colds for yourself and others, my present affliction would become a valuable malady. I must confess, that possibility has made this particular cold almost enjoyable.

SAFETY SONNETS



—National Safety Council

TABLE SYRUPS

ON waffles and pancakes syrups do their first duty; but all good cooks know that the use of syrups do not end here. The various syrups are excellent for flavoring ice cream, candies, sauces, puddings, icings, cakes and other delicious desserts.

Any syrup when added to a candy recipe will prevent it from "sugaring" or crystallizing during the cooking process. The reason for this effect is that all syrups contain a simple sugar, known as dextrose, which does not crystallize as readily as beet or cane sugar. Because of this high content of dextrose, syrups are frequently specified as the sweetening ingredient in recipes for ice cream desserts that are frozen without stirring in a refrigerator.

Corn syrup products provide a mixture of carbohydrates which are useful in the modification of milk for infant feeding. They contain the readily absorbable carbohydrate dextrose which requires no enzymic activity for digestion. Because of the relatively large quantities of dextrins which are also present, corn syrup products are not as easily fermentable as most single sugars.

Adequate nutrition of both children and adults requires careful selection of foods as to both kind and quality. Table syrups are useful as sweetening agents and are in reality the "fuel" foods of the body —that is, they provide the carbohydrates necessary to keep the body's heat and energy at adequate levels. But the well balanced diet, as the prime requisite for growth and health, must also include ample proteins, minerals, vitamins and roughage.

Pure sweets in the form of table syrups are wholesome and valuable foods, but they contribute none of the structural components required for complete nutrition. Because many persons crave sweets, they may often be used in excess. Not that the excess itself is harmful, but when the appetite is satiated with sweets, the appeal for other necessary foods, such as milk, eggs, fruits, vegetables, meats and cereals, is impaired, and consequently the diet is unbalanced.

Syrups are derived from corn, sugar cane, sorghum cane and maple sap. There are federal definitions and standards for each kind of syrup on the market.

In general, the white syrups that stand accepted by the Council on Foods of the American Medical Association consist of a mixture of corn syrup ingredients containing dextrin, maltose and dextrose to which some cane sugar syrup and flavoring have been added. This flavoring may be vanilla extract, imitation maple flavor or vanillin and coumarin. The dark or golden syrups are mostly corn syrup flavored with refiners' syrup.

Molasses is a by-product of cane sugar refinery. It consists primarily of noncrystallizable sugars and other material obtained when cane sugar becomes crystallized. Types of molasses derived from successive crystallizations of sugar are designated as first, second and third molasses; they differ from each other in sucrose and ash content, the first molasses containing more sucrose and less ash than either the second or the third. The water content of all molasses is not more than 25 per cent. Molasses and molasses products may contain some sulfur dioxide as a residue

On waffles, syrups are called on to do their first duty. The bland taste of this delicious food is enhanced by the flavor of syrups.

ENJOY
Crisp Apples
Every Single Day

Fragrant, spicy Jonathans and crisp juicy Delicious from Washington State will delight the whole family. Make sure you have them in some form every day.

What with their richness in intestine-cleansing pectin, and rated "good" sources of vitamin C, they're mighty good for you—other interesting information in illustrated free booklet, address Department H, Washington State Apple Commission, Yakima, Washington.

Meantime, be sure and see your apple dealer. He has a full supply of crisp, fresh

Washington State Apples

DO YOU LIKE GOOD CREAM CHEESE?
HAVE YOUR DEALER SHOW YOU THE NAME
Breakstone's
WHEN HE CUTS YOUR ORDER

AMERICA'S BEST-KNOWN BABY

Gerber's vegetables are grown specially for your baby.
Gerber's
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MY FINEST CALIFORNIA FRUITS SENT ON APPROVAL EXPRESS PREPAID

Packed in 2 Redwood Boxes DELICIOUS SUN-RIPE FRUITS 10 lbs. { 2½ lbs. LARGE WHITE FIGS; 2½ lbs. CALIFORNIA DATES; 2½ lbs. MAMMOTH PRUNES; 2½ lbs. WHITE RAISINS

Canoga Farms, R.F.D. 1, Encino, Calif.

Gentlemen, kindly send me your special TEN POUND assortment of SUN-RIPE fruits all charges prepaid. If after sampling the fruits I am not entirely satisfied I will return the rest to you at your expense, or I will send you the $3.00 by return mail.

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Address_____
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If you wish to send check with order I will include a sample of my delicious DATE-NUTS.

from the manufacturing process. According to federal regulations, molasses can contain not more than thirty parts of sulfur dioxide per million parts of molasses.

Sorghum syrup is obtained from sorghum cane juice. Sorghum cane is a coarse grass not so large as sugar cane. It differs from the sugar cane in that it is a hardier plant and can be grown in wider areas, requires only a short season and is grown from a seed instead of propagated from nodes from the stalks. Sorghum cane juice does not have as high a sucrose content as sugar cane juice. In the preparation of sorghum syrup, the juice is expressed from sorghum cane stalks, clarified, filtered and concentrated under vacuum to a syrup containing not more than 25 per cent water. A gallon of the finished syrup weighs about 11.25 pounds.

Fruit syrups are prepared by concentrating the juice expressed from fruit and adding sugar.

Maple syrup is the syrup made by the evaporation of maple sap or the solution of maple sugar obtained from the evaporation and crystallization of maple sap. Maple sugar is about 90 per cent sucrose and contains certain other substances which give it its characteristic flavor and color. It contains not more than 35 per cent water. The finished product weighs not less than 11 pounds to the gallon.

For mixtures of maple syrup and cane syrup, there are no federal standards regarding the percentage of maple syrup in the combination. But some states have regulations setting minimum percentages of maple syrup which must be contained in syrup sold in their state under labels mentioning the word "maple." As a result of this, it is possible for a brand of syrup to be sold in one state with 40 per cent maple syrup in it and in another state with 20 per cent, each label bearing "cane and maple."

COMPOSITION OF TABLE SYRUPS ACCEPTED BY THE COUNCIL ON FOODS OF THE AMERICAN MEDICAL ASSOCIATION

	Cane Syrup	Corn Syrup Products		Fruit Syrup	Maple Syrup	Molasses		Sorghum
		Dark	Light			Dark	Light	
Moisture	28 %	23 -26.4%	23.6-25.6%	28 %	33.2%	22.2%	23 %	21.9%
Total solids	72 %	73.6-77 %	74.4-76.4%	72 %	66.8%	77.8%	77 %	78.1%
Ash	2.5%	0.4- 1.4%	0.2- 0.4%	0.4%	0.7%	3.6%	6 %	2.3%
Fat	0	0	0	0	0	0	0	0
Protein	0.4%	0 - 0.2%	0 - 0.2%	0.2%	0	0.5%	0.9%	0.4%
Reducing sugars (as dextrose)	12.1%	30.4-38.7%	27.7-36.5%	69.6%	4.2%	25.1%	17.3%	34.7%
Total Carbohydrates*	69.1%	73.1-80.5%	74.1-76.1%	71.4%	66.1%	73.7%	70.1%	75.4%
Calories per gram	2.8	2.9- 3.2	2.9- 3.1	2.9	2.6	3	2.8	3
Calories per ounce	80	82-91	82-88	82	74	85	80	85

* Chiefly dextrins, by difference.

ACCEPTED SYRUPS

The following brands of syrup stand accepted by the Council on Foods and are distributed by the manufacturers, who are privileged to use the acceptance seal:

MOLASSES

Brer Rabbit New Orleans Molasses (Gold Label)
Brer Rabbit New Orleans Molasses (Green Label)

CANE SYRUP

Brer Rabbit Sugar Cane Syrup (Blue Label)
Brer Rabbit Sugar Cane and Corn Syrup (Brown Label)

SORGHUM SYRUP

Farmer Jones County Sorghum Syrup

SORGHUM-FLAVORED CORN SYRUP

Pennant Sorghum Flavored Syrup

MAPLE SYRUP

Highland 100% Vermont Maple Sap Syrup

SUGAR AND MAPLE SYRUP

Steuart's Golden Crown Cane Sugar and Maple Syrup

FRUIT SYRUP

Shenandoah Apple Syrup

CORN SYRUP PRODUCTS

Amaizo Crystal White Syrup
Amaizo Golden Syrup
American Golden Syrup
American Table Golden Syrup
Banner Blue Corn Syrup with Cane Flavor
Bliss Crystal White Syrup
Bliss Golden Syrup
Bliss Pancake Crystal White Syrup
Bliss Pancake Golden Syrup
Bob White Crystal White Syrup
Bob White Golden Syrup
Bonnie Golden Syrup
Crystal Flake Crystal White Syrup
Faultless Crystal White Syrup
Faultless Golden Syrup
Foley's Amber Syrup
Foley's Crystal White Syrup
Gold-N-Sweet Golden Syrup
Golden Crown Golden Syrup

Golden Crown White Syrup
Golden Oak Amber Syrup
Golden-Grain Amber Syrup
Golden-Grain Crystal White Syrup
Home Crystal White Syrup
Home Golden Syrup
Jack Sprat Crystal White Syrup
Jack Sprat Golden Syrup
Jak 'N Jil Crystal White Syrup
Jak 'N Jil Golden Syrup
Karo Crystal White Syrup, imitation maple flavor
Karo Crystal White Syrup, vanilla flavor
Karo Golden Syrup
Karo Powdered Crystal White Syrup
Kent Golden Syrup
King Golden Syrup
Marshall Crystal White Syrup
Marshall Golden Syrup
Nectar Golden Syrup
Pallas Crystal White Syrup
Penford Crystal White Syrup
Penford Golden Syrup
Penick Crystal White Syrup
Penick Golden Syrup
Pennant Crystal White Syrup
Pennant Golden Syrup
Quaker Maid Golden Syrup
Rex Crystal White Syrup
Rex Golden Syrup
Silver-Sweet Crystal White Syrup
Silver Tip Golden Pancake Syrup
Staley's Crystal White Syrup
Staley's Golden Syrup
Sweetheart Golden Pancake Syrup
Turkey Golden Syrup
Uncle William Crystal White Syrup
Uncle William Golden Syrup
Union Crystal White Syrup
Union Golden Syrup
White Crystal Syrup
White Oak Crystal White Syrup

Merchant brands of corn syrup products of the following manufacturers also stand accepted.

The American Maize-Products Company, New York.
American Syrup & Preserving Company, Nashville, Tenn.
American Syrup & Sorghum Company, St. Louis.
Atlantic Syrup Refining Company, Philadelphia.
Bliss Syrup & Preserving Company, Kansas City, Mo.
Colonial Molasses Company, Inc., Brooklyn.
Corn Products Refining Company, New York.
Foley Bros. Grocery Company, St. Paul.
Griggs, Cooper & Co., St. Paul.
The Hubinger Company, Keokuk, Ia.
Jack Sprat Foods, Inc., Marshalltown, Ia.
Mangels, Herold Company, Inc., Baltimore.
Marshall Canning Company, Marshalltown, Ia.
Oelerich & Berry Company, Chicago.
Penick & Ford, Ltd., Inc., New York.
The Pioneer Maple Products Company, Inc., St. Paul.
Scientific Sugars Company, Columbus, Ind.
D. B. Scully Syrup Company, Chicago.
A. E. Staley Manufacturing Company, Decatur, Ill.
Steuart, Son & Co., Inc., Baltimore.
J. Strohmeyer Company, Philadelphia.
The Torbitt & Castlemann Company, Louisville, Ky.
Union Starch & Refining Company, Columbus, Ind.
Western Grocer Company, Marshalltown, Ia.
Wheeler-Barnes Company, Minneapolis.

HERE is the rising generation of up-and-coming youth that is outstripping Mother and Dad in strength and stature—because, generally the *modern* baby is more scientifically nourished than its parents were.

Today's bottle-fed babies, deprived of their natural food in whole or in part, are especially fortunate. Now, in literally countless cases, they are being fed a milk that fully fortifies them for the battle of life.

That milk is Irradiated Carnation Milk, recognized by physicians as a well-nigh ideal food for babies. It is pure and safe, perfectly protected against contamination. It is nourishing—a splendid source of body-building protein; of the minerals, calcium and phosphorus, needed for the development of strong, straight bones and fine, sound teeth; and of "sunshine" vitamin D, the vitamin that makes these minerals *build*.

Most important of all, Irradiated Carnation Milk is milk in its *most digestible* form. Scientific heat treatment makes it a *soft-curd* milk—like mother's milk! It agrees not only with normal healthy babies, but also with sick or premature little weaklings—and often it solves the problem of the baby who is allergic to ordinary milk.

Ask your physician about an Irradiated Carnation Milk formula for your baby. And write for the free booklet, "The Contented Baby." . . . *Carnation Company, 701H Gas Light Bldg., Milwaukee, Wis.*

IRRADIATED
Carnation Milk
"From Contented Cows"

SALLY: Perhaps you've heard about Post's 40% Bran Flakes, Dot! The most marvelous-tasting breakfast cereal you ever put in your mouth!

DOT: Goodness—it *must* be delicious for you to be so enthusiastic about it, Sally!

SALLY: Yes, and Post's Bran Flakes are *much more* than a wonderfully fine-flavored cereal—They give you two important *extra benefits* . . .

First, Post's Bran Flakes provide just enough bran, a *natural* regulator, that helps protect you against sluggishness. People whose systems are irregular, due to lack of bulk in the diet, find Post's Bran Flakes, eaten daily, a wonderful help.

Second, Post's Bran Flakes are a good cereal source of phosphorus, iron, Vitamin B_1 to help maintain appetite . . . and today, Post's Bran Flakes come to you at a NEW LOW PRICE!

SIX MONTHS LATER . . .

DOT: MMM—Don't Post's Bran Flakes have a simply heavenly nut-like flavor! I've been eating them every single morning for the past six months, Sally—and I've been feeling perfectly grand!

SALLY: And you're a different girl, too! Isn't it wonderful to find a cereal that tastes so delicious and gives those *extra benefits,* too!

IMPORTANT: Post's Bran Flakes, due to their bulk, are a regulative cereal. Constipation due to insufficient bulk in the diet should yield to Post's Bran Flakes, eaten regularly—as a cereal or in muffins. For cases not corrected in this simple manner, a physician should be consulted. Post's Bran Flakes are a Post Cereal—made by General Foods.

HEALTHGRAMS

FROM ARTICLES IN THIS ISSUE

¶It is remarkable how people at times adhere with an unbelievable tenacity to their fantastic views on health in its various phases. *See page 1015*

¶Much unhappiness in marriage could be prevented and divorce rates reduced if every couple contemplating marriage would first consult a physician. *See page 973*

¶Thoughtfulness for others is a mark of the cultured. *See page 1039*

¶Nothing of inorganic nature in the soil can actually be destroyed. *See page 981*

¶To be too fat, too thin, too tall or too short is to be the legitimate prey of prominence that, to a sensitive child, may lead to maladjustments of lasting influence. *See page 990*

¶Delinquency and achievement run in families not so much because of similar ancestry, but more because of similar environment. *See page 993*

¶Parental protection of offspring is a biologic trait, cherished particularly by the human race; yet it is the exception rather than the rule for fathers and mothers to utilize this instinct in guarding the sensibilities of their children. *See page 996*

¶"Cold" consciousness makes one more careful and will usually reduce the number of colds. *See page 970*

¶For normal growth and development, every growing infant and child should receive cod liver oil or some adequate substitute. *See page 1000*

¶Nothing is so destructive to machinery as inaction and neglect, and in that it is exactly parallel with its human counterpart. *See page 1003*

¶True insomnia in older children may develop from the same cause as in adults, particularly the fear of being unable to go to sleep. *See page 1041*

THE NERVOUS CHILD (Continued from page 998)

correctly. During their low periods they are accused of laziness, indifference and unwillingness to apply themselves. For lack of any other definition they are pointed to charitably as nervous. They are usually dissatisfied and resentful in feeling and reaction and as a result are difficult of understanding. Unlike the bright youngster who as a rule accepts nervousness as a means of escape, this type never relishes such status. In this group are usually found the social misfits who in youth contribute largely to the criminal element. Their true condition, unfortunately, is not discovered until they have fallen into conflict with the law. Even then the opportunity for proper diagnosis is limited, and it depends on the attitude of the court officer, on the nature of the offense and finally on the quality of counsel in their defense. It is in this group of children that the endocrine glands are often at fault.

Bobby Smith was brought to a clinic twelve years ago when he was 11 years old. He was a nervous child, his mother stated. When asked about the nature of his troubles she gave a long list of complaints indicating that the boy had been more or less a problem ever since birth. His physical development was definitely slow, although to his parents it did not appear out of the ordinary. His delay in teething, sitting alone, standing and talking was explained on a hereditary basis. He was slow in everything, the mother admitted, but this was not considered of much significance. He was always a chubby youngster.

Because of his mental immaturity, Bobby was not sent to kindergarten until he was 6 years old. Contrary to prediction he had no trouble whatever. He loved school, and the children accepted him without reservation. At the end of the first semester his parents requested that he be given a trial in the first grade. The first few weeks were uneventful. By the end of the semester however it was considered advisable to detain the boy in the same grade another term. Aside from complete indifference to the ordinary work in the class, the boy showed no respect for authority and no appreciation for discipline. The group meant nothing to him.

On his visit to the clinic, both school nurse and mother stated that there were times when the little fellow acted normally. He was in the third grade, and every one was under the impression that if he would only try he could get along as well as any other child. If he would only try! They guessed that he was too nervous to make the effort.

Bobby was a restless boy. Though fairly well developed physically, he proved very dull mentally. His intelligence tests were unsatisfac-

tory, the report stated, because of poor concentration. The psychologist's impression was that the intelligence quotient would fall somewhere between 70 and 75. There was the additional opinion that Bobby "seems to have more native ability than he has been utilizing." Subsequent studies showed that the child was suffering not from laziness or lack of application so much as from a deficiency in the function of the thyroid gland.

Under treatment the boy changed almost suddenly for the better. He completed the third grade and went through the fourth without serious difficulty. In the fifth grade he began to slow down again. The case worker's remarks read, "Fractions have caught up with Robert. Teacher doubts that he will ever catch up with fractions." On the recommendation from the clinic, Bobby was assigned to a special grade for training.

There is another type of behavior which parents often consider a form of nervousness but which is not that at all. Barney Grover is 8 years old and is having an extremely difficult time in school. His work is not so bad, but he is constantly getting into scrapes over fighting. At home he is disagreeable and unruly. He is quarrelsome "even in his sleep." Any attempt at correction causes an outburst of uncontrollable temper. Barney's troubles date back to his infancy. He was a "colicky baby." According to his mother his developmental career was stormy, although what the storm actually was could not quite be understood, except that the mother styles herself "a nervous wreck." The dramatic accounts of such simple episodes as are encountered in every household are here depicted with an air of suffering and alarm.

Barney seems to be an agreeable little fellow and of average mental capacity. He is short of stature and stoop shouldered. His thick lenses and steeplechase forehead impart an appearance tending toward the grotesque. His attitude toward himself is not what one usually finds among these unsightly youngsters. He accepts his mother's diagnosis of nervousness with reservation. The fighting of which he is accused he admits readily and not without internal pride. Although his parents are taxed with the burden of buying new eyeglasses too often, Barney affirms blushingly, though again proudly, that he is ready at all times to defend his honor against any kid who does not know better than to call him "Barney Goggles."

This boy is not nervous, regardless of maternal efforts to talk him into it. He is merely acting in accordance with his adopted behavior pattern wished on him in early infancy. He is not blessed with good looks nor with a brilliant mentality. He fights in self defense, or what appears to him self defense. His behavior at home is a serious problem only in the light of parental exaggeration. Barney is a reasonable lad. He even promises to exercise better care of his glasses in the event of future skirmishes.

Not all cases of nervousness, however, are as innocent as they have so far been depicted in this article. Jerry Huston, aged 12 years, had had an uneventful development. About two years prior to his visit to the clinic his mother began to notice a change in the boy's disposition. There was nothing tangible about this change, definite though it appeared. He was nervous and irritable. Pressed for additional information, his mother states that Jerry had become clumsy. As would be expected he had been punished a good deal for breaking dishes as a result of "carelessness." Of late his gait had been unsteady. Indeed it was a fall on the pavement with a resulting laceration of his leg that brought the boy to the clinic.

Jerry was suffering from chorea, or St. Vitus' dance, which apparently dated back to the onset of what the parents mistook for nervousness two years prior to his visit. As often happens in these cases, his heart was also attacked by the infection. The damage to the heart in view of the two years of neglect will in all likelihood remain permanent.

In this discussion I have tried to describe the different types of behavior that parents interpret as manifestations of nervousness in their children. Mrs. Frank Shelton was nervous when as Harriette Jenkins she struggled against an overemotional mother and against an educational program that was geared to an average intellectual mind. She overcame her handicap following the advent of more suitable activity through higher mental outlets in high school and in college. Under stress of maternal function she reverted to her childhood emotional level. In spite of her superior intellect she profited little by her own experiences. Unconsciously, and regardless of warnings, she is starting her own children on a similar route of maladjustment. Neither she nor her children were born nervous.

Jane Talbert's mother insisted that her daughter was nervous. Actually the girl was simply tired, and her tiredness produced reactions that were not in accord with parental expectation. A change in the child's daily program brought about rapid improvement. Incidentally the whole domestic picture was improved in this case. Not a little of the girl's trouble lay in parental disharmony over Mrs. Talbert's determination to launch Jane on the professional stage. Mr. Talbert was equally outspoken against having a "hoofer" in his family. Miss Talbert is now 19 years old, and she has to her credit laudable reviews on several dramatic productions in high school and in college. Her mother is still hopeful of a career, with Hollywood as the ultimate goal.

Bobby Smith was not nervous in the sense in which the term is ordinarily used. He was suffering from an undersupply of thyroid hormone. The struggles that he had to endure for six years were unwarranted in view of the help that was available had his been considered from the start a case of hypothyroidism instead of one of nervousness. It was most interesting to follow this boy in his early days of observation. His parents were ignorant and uncooperative; they showed no interest in the treatment. Consequently the administration of extract was irregular. The school authorities, however, were of great help. His teacher would recognize by his appearance whether he had had his medicine. Failure to take it would give him a drowsy and vacant look.

Robert is now 23 years old. He is far from brilliant, but he is a good cabinet maker, a loyal member of his trade union. He works steadily on federal housing projects and recently became engaged to a simple but charming girl. She sees nothing wrong with Bob except that he falls asleep every time they go to a picture show. Recently when I remarked that that was the nature of the brute, the young lady became indignant. "I want you to know that nobody can call my boy friend a brute. That's just his nervousness."

Barney Grover was considered nervous because of his attempt to overcome a physical handicap over which he had no control and an emotional disadvantage which was wished on him by his overindulgent parents. The only method of compensation that he has at his command is that of physical combat. There are countless thousands of children in the American public schools who are physically handicapped. Some compensate by mental distinction, others through amiability, still others through sympathy. Many, of course, choose the fighting method. Barney has thus far escaped with impunity, although he has taken "many a drubbing," as his mother states. It is doubtful that he will remain "lucky" in his combats indefinitely. Just what he will do following defeat is difficult to predict. In the absence of other possible compensatory talents his prospects for happiness are not too bright.

The case of Jerry Huston illustrates the dangerous fallacy of lay interpretation of nervousness. This boy is now 18 years old and a pathetic problem. His heart is almost twice the normal size. He has had many acute flare-ups which necessitated prolonged stays in bed. Had his parents sought proper aid at the time that he became "fidgety and clumsy" instead of resigning to nervousness, his chorea might have yielded to timely treatment, and he might have avoided these disastrous consequences.

This article was written with one aim in view; namely, to call to the attention of parents that nervousness is not a mysterious condition of fate but rather an anomaly of behavior which necessitates careful investigation of the causes that prompt such behavior. The term "nervousness" covers many imaginary sins of childhood against a world ruled by adults too preoccupied with their own emotional inconsistencies to understand the nature of the young organism. It is easier, even if less practicable, to label a child nervous and resort to the hope that age will somehow correct the condition, than it is to study and investigate the causes of the disturbance.

For the past two decades many civic and governmental agencies, with the aid of the physicians in thousands of American communities, have been making a conscientious effort to stimulate the interest of grown-ups in a dispassionate evaluation of the nature and needs of childhood, its bodily, temperamental and social aspects of growth. As a result of this tendency the present generation of children is just beginning to receive the blessings of sane thinking along the modes of constitutional development. Studies in nutrition, metabolism, mental hygiene and other branches of medicine today offer much in facilities for prevention and alleviation of these early emotional distortions. A youngster whose conduct is odd enough to be considered nervous needs thorough

consideration and guidance by a competent physician. Parents in their turn would do well to abide by the opinion and advice of such medical counsel rather than rely on their own diagnosis and management of "nervousness" in their children. It is remarkable how people at times adhere with an unbelievable tenacity to their fantastic views on health in its various phases. They neglect principles of hygiene to the needless detriment of themselves as well as their children. Seldom does any child have a greater handicap to overcome than he whose mother, against all known reason, insists, "My child is nervous."

CARBON MONOXIDE

Carbon monoxide, now recognized as a public health hazard, ordinarily does not appear in nature but results almost entirely from incomplete oxidation or burning of material containing carbon. It has been reported to have been formed in large amounts during severe electrical storms and to have been produced by growing kelp. It is present when buildings burn and after explosions and fires in mines; it is produced in lime, brick and charcoal kilns; in the laboratory it is produced by heating formic and oxalic acid with sulfuric acid. It is found in smoke and in compartments which have been painted with oil paints and sealed. It has even been reported formed from burning cigarets.

L. B. Franklin, Minneapolis, in *Minnesota Medicine*, urges that the public be educated on all phases of the hazard. Persons likely to come in contact with high concentrations of carbon monoxide, such as firemen and policemen, need especially to be informed of the hazards. Methods of accurately determining injurious amounts of the gas in air should be developed, and the public should be instructed in the detection of gas in homes, garages and motor cars. For example, gas companies when installing gas in a home or apartment might be required to supply each patron with a piece of apparatus for detecting leaking gas.

Legislation should be enacted for the elimination of the hazard in factories, public garages, mines and wherever there are employees.

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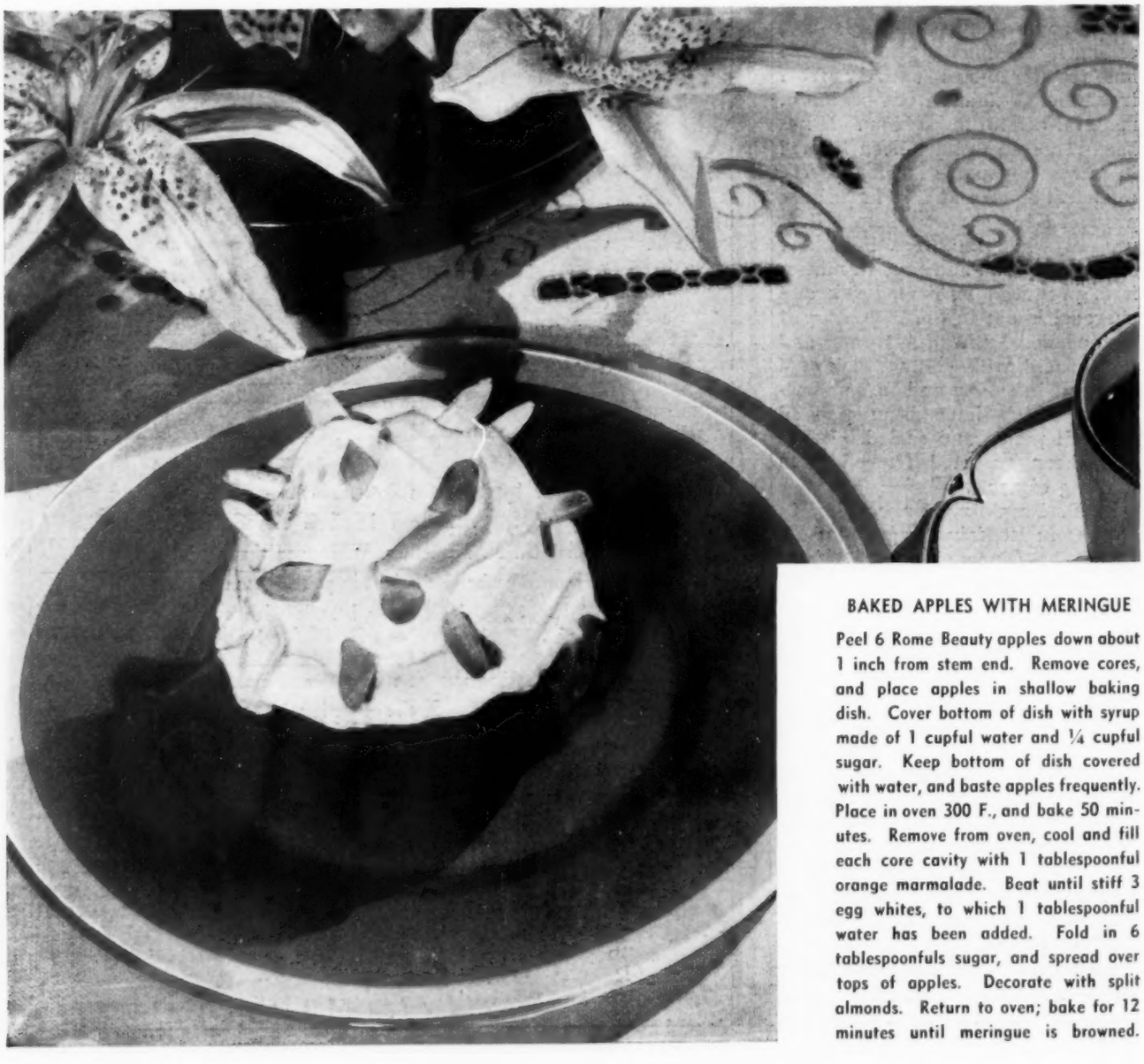
TEMPTATION

THOUGH dietary knowledge has progressed beyond belief that "an apple a day will keep the doctor away," apples still rate high in nutritive values, and they do deserve an important place in the American diet.

One or more varieties of apples are available during every month of the year. During July, August and September, the yellow transparent, Gravenstein, Oldenburg, Williams, Starr, Maiden Blush and Wealthy are available; from October to April, the McIntosh, Golden Grimes, Spitzenburg, Jonathan, Northwestern Greening, Northern Spy and Delicious, to mention just a few varieties, are plentiful; from November to May, Winesap, Baldwin, Rome Beauty, Ben Davis, Gano and Tompkins King are plentiful; and from January to July, Winesap, yellow Newton, Missouri Pippin and Ingram varieties may be obtained.

Most varieties of apples are good sources of vitamin C; but some varieties, such as Delicious and Spitzenbergs, are even better sources of this vitamin. The vitamin C content of apples may be expected to vary according to the variety, the conditions under which the crop has been grown, the degree of ripeness and other factors. Apples keep their quota of vitamin C in storage and may be substituted for citrus fruit juices, pineapple juice or tomato at any time and especially during seasons of the year when apples are abundant and cost less than these other foods. For full benefit of their vitamin C content, apples should be eaten fresh, as



BAKED APPLES WITH MERINGUE

Peel 6 Rome Beauty apples down about 1 inch from stem end. Remove cores, and place apples in shallow baking dish. Cover bottom of dish with syrup made of 1 cupful water and ¼ cupful sugar. Keep bottom of dish covered with water, and baste apples frequently. Place in oven 300 F., and bake 50 minutes. Remove from oven, cool and fill each core cavity with 1 tablespoonful orange marmalade. Beat until stiff 3 egg whites, to which 1 tablespoonful water has been added. Fold in 6 tablespoonfuls sugar, and spread over tops of apples. Decorate with split almonds. Return to oven; bake for 12 minutes until meringue is browned.

FRUIT

By Harriet Morgan Fyler

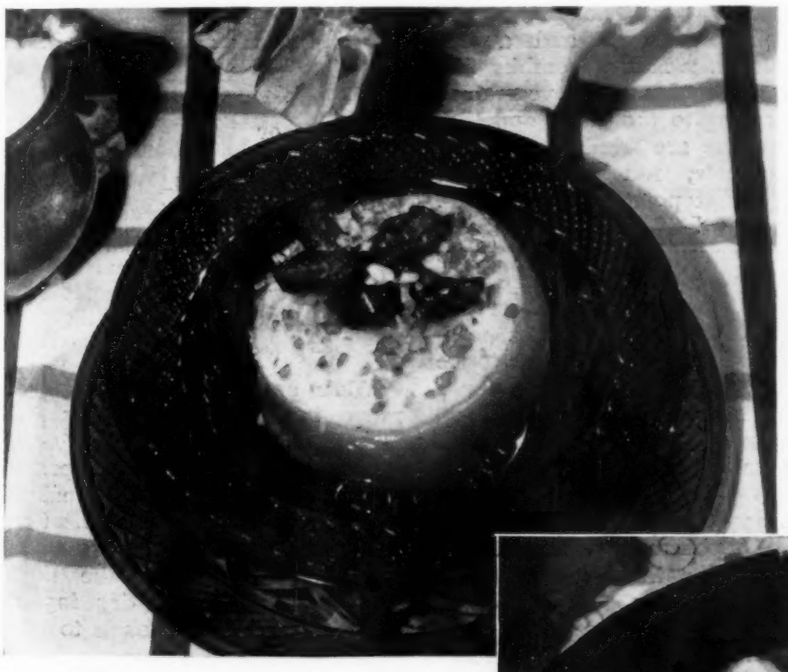
cooking is quite apt to destroy a considerable quantity of this vitamin.

It can be computed that the entire vitamin C requirement could be satisfied by the consumption of about four Delicious or Spitzenberg apples a day or four apples of another variety, which is not an excessive amount to eat. At a time, not so long since, when an orange was considered a treat for a good child and served with nuts as a second dessert only at Christmas time, the apple barrel, overflowing with juicy red apples, was the American family's chief source of vitamin C. The mother of the baby who takes his orange juice for granted can remember her grandmother's dictum, "A little scraped raw apple at 3 months, and not more than a teaspoonful at first, is good for the baby."

Apples are also considered a good source of vitamin G but only a fair source of vitamin A. Most of this vitamin in an apple is located in or near the skin. Thus, if the apple is eaten peeled, much of the vitamin A is discarded with the peeling.

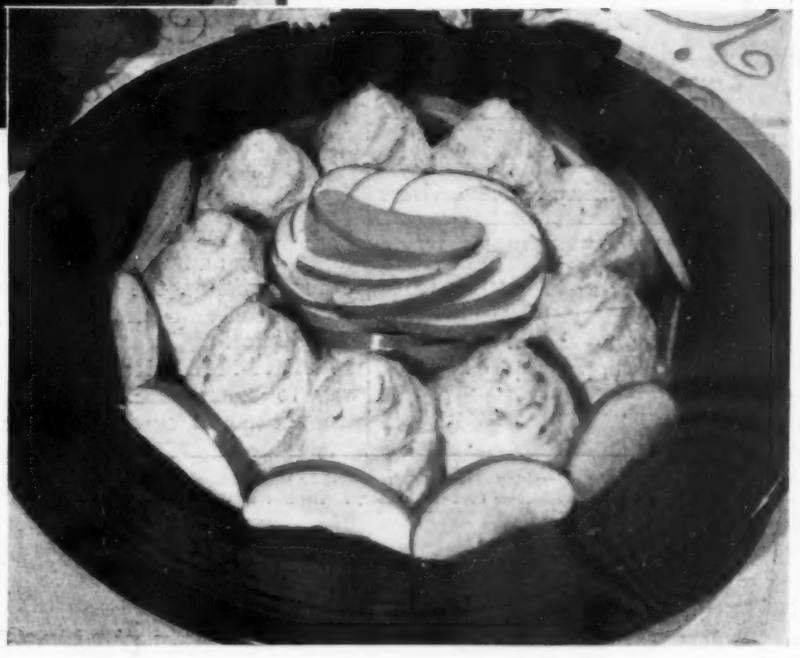
Apples are less subject to cooking losses than some foods, because their prevailingly high acidity protects vitamin B_1 from destruction, although much vitamin C is lost. The cooking waters are infrequently discarded but rather serve, usually with added sugar, as the most toothsome part of the cooked apple.

Sixteen per cent of an apple is solid matter, and the remainder is water. The most conspicuous constitutent is carbohydrate. A large apple will furnish about 65 calories.



BAKED APPLE AND HONEY

Peel the apples down about one inch from the stem end; remove the cores and place in a shallow baking dish with a small amount of water. Fill each core cavity with 2 tablespoonfuls of strained honey, and bake in oven, 325 F., for ½ hour. Remove apples from oven, and pour another tablespoonful of honey over peeled tops of apples. Sprinkle with chopped nuts, and fill core cavities with pitted chopped dates. Return to oven for 15 minutes.



APPLE CHARLOTTE

Grate 3 unpeeled Jonathan apples. Add juice of ½ lemon, its lemon rind, 1 tablespoonful orange rind and ½ cupful powdered sugar. Soak 1½ tablespoonfuls gelatin in ¼ cupful cold water. Dissolve in ½ cupful boiling water. Cool, and add to apple mixture. Whip ½ pint cream, and fold into fruit mixture. Pour into large mold which has been rinsed in cold water. Chill until firm. Unmold and garnish with slices of 1 unpeeled Jonathan apple which has been sprinkled with lemon juice.

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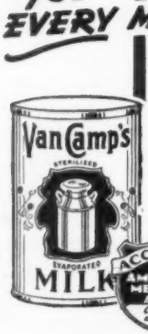

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Like all fruits, apples have mild laxative properties and tend to increase elimination by virtue of their mild diuretic qualities. This is due in part to the extra water consumption and roughage (indigestible carbohydrate) together with the action of certain salts of organic acids.

Apples are high in an organic acid known as malic acid. Malic acid, like the citric acid found in citrus fruits, builds up the body's alkaline reserve. When malic acid is oxidized in the body, it is converted to water and carbon dioxide and leaves no acid portion. Thus, apples help keep the body on the "alkaline side."

Besides food value, apples can boast a large quota of what the gourmets call "appetite appeal." The American menu would not be typical without apple pie, apple sauce, baked apples and apples *au naturel*. Many combination dishes of apples with vegetables are tempting to the jaded appetite. Among these are fried apple rings with carrots, red cabbage and apples, sweet potatoes and apples. Apples also can be added to almost any fruit or vegetable salad. There are always the fritter, dumplings, turnovers, brown Betties, crisps, scallops, upside down cakes, tapiocas and apple sauce cakes to be made in great variety. Just for a change, serve apple juice as an appetizer.

The flavor of apples depends on several factors. One is the variety of the apple; another factor is the stage of ripeness at which it was picked, and a third factor is the storage conditions. Immature apples are likely to have poor color for their variety, and frequently look shriveled after being in storage. Their flavor is not up to par for eating fresh. Overripe apples give when pressed lightly with the finger tip, and the flesh is mealy and soft without the snap and crispness which is desirable for eating raw apples.

Most of the apples that find their way to urban markets these days are packed to comply with either federal or state grades or both; so one rarely finds apples that began their mercantile life seriously defective.

Apple Sauce Cake

1	cupful sugar	1	teaspoonful cinnamon
1	egg, well beaten	½	teaspoonful cloves
1	cupful raisins	2	cupfuls cake flour
1	cupful nuts	¼	cupful fat
¼	teaspoonful salt	½	teaspoonful vanilla
1	teaspoonful soda		

1 cupful apple sauce

Cream fat and sugar thoroughly. Add egg, chopped nuts and raisins, and stir until well mixed. Add sifted dry ingredients, vanilla and apple sauce. Pour into a greased pan. Bake about one hour at 350 F. Apple sauce cake keeps well and is excellent for lunch boxes.

Apple Cobbler

3	apples or more	¼	teaspoonful salt
¼	cupful sugar	½	cupful sugar
¼	teaspoonful cinnamon	¼	cupful milk
1	cupful flour	1	egg, well beaten
1	teaspoonful baking powder	½	teaspoonful vanilla
		2	teaspoonfuls butter

Wash and slice apples, and arrange in a buttered baking dish. Mix ¼ cupful of sugar and ¼ teaspoonful of cinnamon, and sprinkle over the apples. Sift the remaining dry ingredients in a bowl. Combine the egg, milk, vanilla and melted butter. Pour the liquid ingredients into the dry ingredients, stirring just enough to combine. Spread this batter over the apples, and bake in a moderate oven until the batter is done. Serve with this cream.

Baked Apples

4	apples	½	cupful sugar
		½	cupful water

Wash apples, and remove cores. Place the apples in a baking pan; fill the cavities with sugar. Cover

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the bottom of the pan with water (¼ inch deep). Cut tiny slits up and down the apple in order that the steam may escape and thus insure a better shaped baked apple. Bake apples in a hot oven until they are tender. Baste occasionally.

Variations in flavor may be secured by using brown sugar, maple sugar, honey or cinnamon candy. Lemon, orange juice or butter also give additional flavor.

Apple Meringue Dainty

- 2 cupfuls apple sauce (sweetened)
- ½ teaspoonful cinnamon
- ¼ teaspoonful nutmeg
- 1 tablespoonful butter
- 2 tablespoonfuls powdered sugar
- 2 egg yolks
- 2 egg whites

Add spice, sugar and butter to the apple sauce. Pour this mixture over the beaten yolks of the eggs, and stir thoroughly. Pour into buttered baking dish. Beat egg whites until stiff but not dry, add powdered sugar and beat again until sugar and egg white are thoroughly mixed and pile lightly on the apple. Bake in a moderate oven (300 F.) until the meringue (egg white) is lightly browned. Serve hot or cold with whipped cream or custard sauce.

Coddled Apples

- 4 apples
- 1 cupful sugar
- 1 cupful water
- ¼ cupful cinnamon candies
- ⅛ teaspoonful salt

Wash, pare and core apples. Cut into uniform pieces. Make a syrup of sugar, water and salt. Add apples, and cook gently until transparent and tender. Remove apples, concentrate syrup, and pour over apples.

Apple Sauce Icebox Dessert

- 1 cupful dry Cake or cookie crumbs
- ¼ cupful powdered sugar
- 1 cupful whipped cream
- 1 cupful thick apple sauce
- 1 tablespoonful lemon juice
- 1 teaspoonful vanilla
- ½ cupful nutmeats

Mix finely crumbed cake or cookies with powdered sugar. Fold into this the whipped cream, apple sauce and flavoring. Pour into bowl, and chill in refrigerator for one hour before serving. Serves 8 persons.

DO YOU KNOW ...that no sugar is added to Dole Pineapple Juice? It's pure, wholesome, digestible, rich in natural fruit energy and contains valuable body-building properties.

DOLE PINEAPPLE JUICE FROM HAWAII

THE STORY OF FOOD (Continued from page 983)

by the ancients than by us, probably to offset the evil flavors developed in perishable foods due to lack of proper storage.

Diets of the Ancients

In Greek and Roman times numerous plants served for flavoring, such as dill, aniseed, hyssop, thyme, pennyroyal, rue, cumin, poppy seed, shallots, leeks and of course onions and garlic, which Virgil extolled but Horace decried. Sorrel, a plant that is now in the discard because it is laden with oxalic acid—a poisonous substance—was cultivated by the Romans and according to Apicius was eaten stewed with mustard and seasoned with salt, oil and vinegar. Broccoli was a favorite with Apicius, boiled with pepper, chopped onions, cumin and coriander seed with a bit of oil and wine. Boiled turnips were seasoned with rue, cumin and benzoin, pounded in a mortar and then these ingredients added: honey, vinegar, gravy, boiled grapes and oil. Beets, mallows, artichokes and cucumbers were as elaborately prepared. We now recognize these as drastic treatments for vitamins to survive. Asparagus was cultivated with great care and apparently prepared more simply, as it is today. Vegetables were prepared to satisfy curiosity of taste with no idea of nutritive values and generally served only as vehicles for the many herbs and spices.

Among the Romans, gluttony, gourmandism and extravagance in foods became almost an obsession. This is said to have reached its height when Elogabolus ascended to the throne. Partridge brains and ostrich brains were favorite dainties. At some of his feasts as many as 600 ostrich brains were served. Nightingales and thrushes were called on to yield tongues to be served in pâtés.

Seneca wrote: "Is it necessary to enumerate the multitude of maladies that are the punishment of luxury? The multiplicity of viands has produced a multiplicity of maladies. The greatest of physicians, the founder of medicine, has said that women do not become bald or subject to gout. Now they are both bald and gouty. Woman has not changed since in her nature, but in her mode of life, and imitating man in his excesses, she shares his infirmities. Where is the lake, the sea, the forest, the spot of land that is not ransacked to gratify our palates? Our infirmities are the price of the pleasures to which we have abandoned ourselves beyond all measure and restraint. Are you astonished at the innumerable diseases?—Count the number of cooks." Seneca mistakenly incriminated variety in the diet. Little value can accrue to us, however, from the knowledge of atrocious violation of fundamental principles of nutrition by the ancients. There is, on the other hand, significance to us in the fact that the wise of the time, Hippocrates, the father of medicine, recognized that such principles were being outraged. That the medical profession of today recognizes the enormous possibilities for better health through nutritional channels promises much for the future.

One of the finest records of a later period is Samuel Pepys' Diary. On Jan. 26, 1659, he records: ". . . my wife got ready a very fine dinner; viz.: a dish of marrow bones, a leg of mutton, a loin of veal, a dish of fowl, three pullets, and a dozen of larks all in a dish; a great tart, a neats tongue, a dish of anchovies, a dish of prawn and cheese."

Mar. 6, 1660: ". . . were very merry with a special good dinner, a leg of veal and bacon, two capons and sausages and fritters and abundance of wine."

Mar. 26, 1660: Having guests to dine. "I had a pretty dinner for them, viz.: a brace of stewed carps, six roasted chickens and a jowl of salmon hot for the first course; a tansy, a kind of sweet dish made of eggs, cream, etc., flavored with the juice of tansy; and two neats tongues and cheese, the second."

Apr. 4, 1662: ". . . was very merry before and after dinner, and the more for that my dinner was great and most neatly dressed by our own only mayde. We had fricassee of rabits and chickens, a leg of mutton boiled, three carps, in a dish, a great dish of a side of lamb, a dish of roasted pigeons, a dish of four lobsters, three tarts, a lamprey-pie, a most rare pie, a dish of anchovies; good wine of several sorts, and all things mighty noble and to my great content." Pepys once drank a whole glassful of the juice of oranges, a rare fruit in those days, and was surprised because no ill results followed.

A White House dinner in Andrew Jackson's time sounds like a section from Pepys, except that fruits were more in evidence. On Feb. 20, 1834, John R. Montgomery, a lawyer, invited by President Jackson to attend a White House dinner at which "the party was small," wrote among other things to his daughter: "The first course was soup in the French style; then beef bouille, next wild turkey boned and dressed with brains; after that fish; then chicken cold and dressed white, interlaided with slices of tongue and garnished with dressed salled; then canvass back ducks and celery; afterwards partridges with sweet breads and last pheasants and old Virginia ham. The dishes were placed in succession on the table, so as to give full effect to the appearance, then removed and carved on a side table by the servants. The first dessert was jelley and small tarts in the Turkish style, then blanche mode and kisses with dryed fruits in them. Then preserves of various kinds, after them ice cream and lastly grapes and oranges."

It is plainly evident to us today that Seneca was both right and wrong. The fact that the Romans went so far and wide to secure their food was not the source of their nutritional maladies. The difficulty lay in the fact that their foods were all of the same type. The principle of the balanced diet had not yet been enunciated and was being grossly violated. Pepys' diet was evidently of a similar nature. And to make the comparison complete, from the standpoint of the effect on his health, we should bear in mind that Pepys underwent a major operation for "the stones" as a young man, as well as recollect the numerous occasions on which he felt ill disposed. Perhaps his ill disposition, causing him on one occasion to kick his "mayde" and on another to strike his wife, is traceable to the dietary habits of the times. His remorse following such occasions indicates that his outbursts were not the result of a depraved nature.

Outstanding is the fact that food in olden times was largely of ani-

mal origin: meat, together with cereal grains, usually in the form of meal for baking. The vegetables which entered the diet before modern times were of little significance, and much of their food value was destroyed during elaborate processes of preparation. The absence of vegetables in the diet is reflected even in fiction. In "Gone with the Wind" and "Drums Along the Mohawk" the only vegetables receiving mention were yams, sauerkraut, pumpkins and turnips. In "Northwest Passage" we read of a dinner "exactly like every large dinner given at the time—soup at the head and foot of the table: then a saddle of mutton at one end and fish at the other; after that a capon at the head and a platter of pigeons at the foot and lastly four sorts of ices —grape, raspberry, pineapple and lemon." It may be inferred that soup of those prerevolutionary days was in the nature of a meat broth. The Hoes of "If I Have Four Apples," fiction depicting our times, were careful to use adequate vegetables which furthermore had to be of high quality. In fact, no ill-nourished human being could have survived their budgetary difficulties.

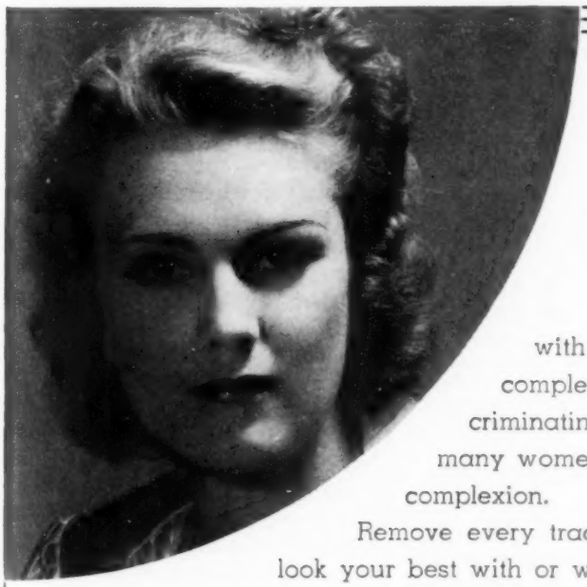
Failure to use vegetables earlier was not due to their being unknown. Sauerkraut is an Alsatian invention originating prior to the Middle Ages. Peas were known in Europe in the Middle Ages. They were not cultivated in England but were imported from Holland. When Elizabeth was released from her imprisonment in the Tower in May 1554, she first performed her devotions in the Church of All Hallows and then dined at a neighboring inn at which the principle dish was boiled peas, a "fit dainties for ladies, they come so far and cost so dear." Asparagus was known by the ancients, and Pepys on Mar. 26, 1662, "cut asparagus for supper, the best that ever I eat in my life," and May 9, 1666, he "had some asparagus for supper." Sir Walter Raleigh took potatoes from the Western continent to his estate in Cork. Tomatoes were called "love apples" but were rated as poisonous, as are other plants of the night-shade group.

Early reference to many vegetables could be cited. Yet we waited until the twentieth century to become eaters of succulent vegetables. To indicate the pains we now take, one third of the 70,000 carloads of fresh produce entering Chicago last year traveled more than 2,000 miles. Canned foods were assembled in even greater quantities from farther afield, and frozen foods are entering more and more into the picture. This is in large part the result of the same forces that lead to the Phoenicians' use of the ash from sponges for patients with goiter. The trend toward the greater use of vegetables was thoroughly established before discovery of the vitamins, by which it was given a tremendous impetus. It is traceable to an unbalanced diet brought about by our machine age and complex modern social and economic structure.

Next month Dr. Kohman will conclude his "Story of Food."

CHRISTMAS SEALS

The annual sale of Christmas seals begins Thursday, November 30. From then until the first of the year, Christmas seals will be sold to finance the campaign against tuberculosis. Watch for "The Story of the Christmas Seal Sale" in the December HYGEIA.



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Among predisposed persons diabetes is more likely to appear in those who are stout. Anyone who knows or suspects the occurrence of diabetes in his family history should be especially careful to avoid overweight. The extensive records of one physician show that only 5% of his adult diabetic patients were underweight before developing the disease.

Early discovery is another protection against the dangers of diabetes, because in the beginning many cases are mild and not difficult to control. Physicians usually advise anyone with diabetes in the family to have periodic health examination, including a urinalysis and a blood sugar test.

The outlook today is extremely hopeful for the person who develops diabetes. Treatment is based, in part, upon a simple diet of common foods prescribed by a physician. The modern diabetic diet is planned to keep the patient at, or slightly below, the normal weight for his age and height. In addition, insulin is usually required to supply what the body lacks. This combination has happily done away with the old-time starvation diet.

The slower action type of insulin called protamine zinc insulin is widely used today. This brings many patients one step closer to normal living as it is usually taken only once a day.

Today diabetes can be controlled if full use of modern medical knowledge is made in time and patients cooperate with the physician during treatment.

The Metropolitan free booklet "Diabetes" discusses some of the ways to guard against the disease, describes its signs and causes and the modern type of diabetic diet. A copy is available upon request. Address Booklet Department 1139-Z.

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REVOLUTION in FOOTBALL

(Continued from page 986)

not properly warmed up for the ensuing action.

The National Six-Man Football Rules Committee strongly recommends that officials be required to remove any player who shows signs of being injured and, in addition, that such players not be allowed to return to the game until given permission to do so by a physician. The Six-Man Rules Committee also recommended that teams be classified according to age and weight. The committee pointed out that football is a contact game and that in certain other contact sports, such as boxing, weight classifications are used. That is to say, a 200 pound boxer is not put in the ring against a 100 pound opponent, and, says the rules committee, a wide variation in weight too frequently occurs in football.

But the actual changes in the rules of the game and the reduction of the number of players on a team is not the only way in which the game of football has been made safer for players. The Portland, Ore., High School Athletic Association has contributed its bit to the revolution that has as its goal an improved and regulated game of football. This association has adopted certain rules for the welfare of football players. First, all boys out for the football team must file with the principal of the school an athletic permit signed by their parents. In addition to this, the boy must pass a physical examination before he is permitted to play on a team.

Other regulations adopted by the Portland high schools include the age limit rule which lowers the upper age of eligible football players from 20 to 19 years. This rule was adopted so that an immature boy would not be playing against a more mature boy of 20 years of age. A similar rule is being used in other states.

In Portland, too, a regulation limits the practice period for football to one and a half hours. Two other regulations used in Portland are worth mentioning. One is that spring football and other out of season practices have been eliminated. Another is that teams are classified for competition as A, B, C and D teams, these classifications being according to age, height and weight. Here again is a regulation

which makes possible competition between boys of similar ability.

New York State has adopted regulations somewhat similar to those used in Portland, Ore.; but in New York the qualifications for football competition are required in all of the public high schools. For one thing in New York State a boy is eligible for only four years in any one interschool sport. "A boy shall be eligible," reads the New York State regulations, "for interschool competition only between his fourteenth and nineteenth birthdays. He shall be eligible for interschool cross-country, ice-hockey, or football only between his fifteenth and nineteenth birthdays."

Perhaps the most important regulations dealing with football in New York State are as follows: "Interschool competition in football shall be limited to a maximum of seven games a season. At least three weeks of training shall precede the first game. No game shall be played with college freshmen. All organized team practice and games shall be limited to the period between September 1 and December 1. Interschool competition in football shall be permitted only in those schools which have twenty or more boys physically fit and eligible for participation. Competition shall be limited to boys enrolled in grades nine through twelve."

The three weeks' training period preceding the first game is unquestionably an important factor in reducing injuries. A player who has not properly conditioned his muscles is more apt to suffer an injury than a player who has been given plenty of time to strengthen and harden the muscles which he uses in a body contact game such as football. The fact also that New York State does not permit high school boys to compete with college freshmen is a commendable regulation. In the first place college freshmen are in most instances at least a year older than the seniors on a high school football team. Some college freshmen, however, are two and three years older than the oldest player on a high school team. Pitting boys of this variation of age against each other is surely not scientific supervision, and where it is done accidents are liable to occur.

Perhaps the best regulation of all, used in New York State, is the one which does not permit schools to have a football team unless they have twenty or more boys physically fit and eligible for participation. All too many small schools in this country are trying to carry on interschool football with barely enough players to make up a team. Where this condition exists, the boys on the first eleven are bound to be used more in games, for the small number of substitutes makes it impossible to give the expert player the rest he should have. In larger schools, where the squads are bigger, more boys can be used in a game. Big squads make it possible to conserve the strength of all players, because players can be taken out of a game before a slight injury becomes serious.

There are other considerations which make it certain that the revolution in football will continue on many fronts. Take, for instance, the matter of a shorter schedule of games. One physician has made this comment: "Something the rule book boys have overlooked is the fact that a physician's care at the game, at practice and the hundreds of other little precautionary measures are minute compared to the one big factor that breeds broken bones and serious bruises . . . *too much football.*"

This physician, it should be mentioned, believes that medical supervision of football players is absolutely necessary and disapproves of overworking football players in so many games. This physician called attention to the fact that in one big city each high school football team played a total of thirteen games. By the eleventh game practically all the players showed evidences of too much football, and by the thirteenth game many were on the bench with injuries and those who did participate played listlessly. New York's statewide regulation, permitting only a seven game schedule for interscholastic football teams, is worthy of adoption in all our states.

There is, too, the problem of selecting men to officiate at fooball games. Many officials themselves agree that they are assigned entirely too much responsibility for the smooth functioning of a football game. And surely, officials have a great deal to do with the safety of players. An official's responsibility is divided chiefly in two ways: First, the official supervises the sportsmanship of players, and poor sportsmanship frequently results in injuries; second, if the official blows his whistle slow on plays, the players pile up, which may contribute indirectly to injuries.

Selection of competent officials will probably always be a problem. And it is doubtful whether or not rival coaches should have anything to say whatever about the selection of officials for a game. Some form of an impersonal committee for the selection of officials seems to be the most practical method. And to add to this, the officials should be paid adequately, should thoroughly know the rules of the game and should themselves be outstanding examples of fine sportsmanship.

Still other vital problems enter into this business of making the game of football safe for players. Two of these problems are the type of field surface the game is played on and the kind of equipment worn by players. Probably the best playing surface is a turf field. Turf fields are expensive, but they are worth what they cost, for, not only are they softer to fall on, but a player using a turf field often develops a different attitude toward falling down.

As for the matter of the players' wearing apparel, here is the subject that is going to bring about the next big battle in this revolution in American football. More and more criticism is being aimed at

(Continued on page 1029)

SAFETY SONNETS

—National Safety Council

HEALING the SICK (Continued from page 980)

The more honest and modest he is, the less you could expect him to say that the practice of medicine as applied to the healing of the sick is one part science, one part skill and the rest the art of healing. It is devotion to this art that keeps him at a bedside long after he has used up those technical resources and performed those functions which, under a supervised social system, he might creditably report on his worksheet for the eight hour day as a basis for payment or demerit.

That he devotes himself to this art is important, too, in the fact that the patient *knows* he is there. Of infinitely less value in the sick man's eyes would be "Operator 89," replacing "27" on relief. Hah! Who then is to be held accountable —who to blame—or on whom to rely? At home or in the largest institution, it is important to the sick man that this personal physician and friend be always there, arranging everything, watching everything, just there in charge!

Twice dead, by routine measurements, I am livingly grateful to two men who stood by beyond the legal need of duty. The first occurred in infancy, the second while I was in the Infantry at Camp Pike, in Arkansas. A blow on the back of the neck laid me low. Low enough, indeed, that in the rush of work that was incident to our epidemic of influenza, two duly commissioned medical officers agreed I was suddenly, thoroughly and adequately dead. It happened to be midafternoon. It was early in the evening that a medical Colonel paused by my slab. It was near 4 o'clock in the morning when I opened my eyes. I was lying in my own bunk in my own barracks. There was a dull light from a lantern. Leaning over my bunk was the Silver Eagle of a Colonel and the caduceus [emblem] of the medical corps. But mostly, in the light, was a patient friendly face, gentle gray eyes, white hair and a sympathetic smile. "Quiet, now. Quiet."

Sweet medicine! I took it as freely as it was given. I wasn't dead and never had been! Just my neck dislocated. I was back with my platoon that afternoon and have never had the opportunity even to thank "my" physician. A case for "system" and "regimented skill?" Not at all. The old chap had merely given me the more than routine care that the true physician gives the sick man. From an organization standpoint, a Colonel's sitting up the night with one sick patient was perhaps most unmilitary.

Being dead was easy. Twice "dying" took more both from me and from my physicians. In boyhood, pneumonia caught me rather quickly one December. The details are unimportant. Good old Dr. Thorn got busy as fast as he could. As I recall in the days that followed, it seemed he was always there. I escaped this worst night from the delirium that had been smothering me. Again it was daybreak. Thorn was sitting in a chair by my bed. He looked up and smiled. I smiled back as he felt my forehead, for he seemed pleased with me. Something tight loosened up inside of me. I started perspiring and felt relaxed. And, if you know your pneumonia, that was the end of the worst.

Thirty years later a 3 a. m. call to my doctor on the Chicago North shore, found me shortly on my way to a hospital in an ambulance. Interns, orderlies, nurses—all were there; but to me it was only important that Dr. Rufus was with me. Things were really pretty bad. I knew before he told me that it was largely up to me. I also knew it was pneumonia and that I should have called him two days earlier.

"Keep drinking ice water . . . keep drinking ice water," Dr. Rufus speaking. Rufus medicine—ice water. Red, green and yellow whirling wheels and sparks, and devils that kept turning the water warm . . . but my doctor said "keep drinking."

There were two days of this, and then the worst of that was done.

"You know it's funny, Dr. Rufus," I told him the third day when the nurse ushered him in. "You never will believe how delirious I've really been. Each time you've been here with me I just happened to be rational for the moment"

Rufus laughed. I learned later from the nurse that he had spent both nights at the hospital.

Poor fellows, let's sell them down the river along with the rest of our rights and privileges. Let's either sell them or speak up for them!

In the category of the well meaning scientist, or historian, I would place Dr. Henry E. Sigerist, director of the Institute of the History of Medicine at Johns Hopkins University. In his article in the *Atlantic Monthly* in July he proposes a system of socialized medicine for this country based on his training and experience in Yugoslavia, Denmark, New Zealand and Chile. Having recently come to this country, is it not true that Dr. Sigerist has never practiced medicine here in the sense that the word "doctor" indicates, as one who heals the sick? Speaking from the orderly security of Johns Hopkins, is it not also possible that our historian is honestly innocent of the infinite capabilities of city, county, state and national political authorities in this country for confusing "regimentation" with "racketeering"?

In the August issue of the *Atlantic* three physicians answer this challenge with a defense of the American way.

Like any other physicians, they reach a stammering point of modesty in defining the degree which individual talent and skill are measures of progress in medicine: in the case of the scientist who pursues the causes of disease, or of the healer of the sick who gives his heart and energy to the practice of the art of medicine. No more than any other art or science can this be regimented. Nor should we, as potential sick men, allow this present freedom to be tampered with.

The greatest medico-social need in this country today is a program of public education that will give us a better understanding of our medicine men and the ways in which we can best assist their magic in the use of those resources that are available. Let those who make good magic find more honor and distinction with their fellows. Let those who make bad magic be more sharply dealt with by the tribe than they have been in the time that is past.

For the good of humanity, let us protect the freedom of the scientist. For the current good of ourselves, let us protect the freedom of those who heal the sick. They have served us thus far much better than we have served them.

QUESTIONS AND *Answers*

Neither rich, heavy nor gas-producing foods should be eaten during the flight. That is one way to avoid air sickness.

Keratoconus of the Eye

To the Editor:—What causes keratoconus [conical shape of the cornea], and can it be healed?

M. E., California.

Answer.—Before answering the question, it is essential that some of the characteristics of the disease be understood. It is a thinning of the center of both corneas of the eye, which may start as early as the fifth year of life, although more often it comes on at the time of puberty.

Two theories are expressed as to its cause. The first and more widely accepted one is an inherent, perhaps hereditary, weakness of the cornea. The second is that the corneal change follows an endocrine or glandular deficiency. These include the thyroid and reproductive glands. The cause is unknown.

Treatment is unsatisfactory, consisting of general medical care, including glandular therapy when indicated and some specific drugs for the eyes.

In the early stages, glasses frequently correct the vision. When, however, the disease is far advanced, meaning that when the cornea is extremely distorted and the center of the points scarred, ordinary spectacles are of little service.

Formerly, many operations were performed, but it is now conceded that they are of little or no value.

Applying a Knife Over a Bruised Area

To the Editor:—Is it necessary to apply the flat part of a knife against a bruise to prevent it from getting larger? Isn't it possible that nature forms the bump as a sort of protection? By using the knife, do you prevent this bump from forming completely?

J. R., Pennsylvania.

Answer. — The swelling or "bump" which results from a fall is not in any sense a protective mechanism but is due to blood escaping from torn or ruptured blood vessels into the soft tissues about the site of injury. The same thing happens when a person sharply twists an extremity at a joint, when a bone is broken or when any injury of the soft tissues underneath the skin takes place. The amount of swelling depends on the rapidity with which the blood is poured out and the tension of the tissues into which the hemorrhage takes place. The bleeding stops when the tension which it produces is sufficient to close the opening in the torn blood vessels or when coagulation takes place.

The most certain, the simplest and most universally applicable method of stopping such bleeding is to apply pressure over the bleeding area. Over the soft tissues this compression is best applied with a mass of fluffed gauze and a snug bandage. To apply a flat knife over a bleeding area is not an efficient or logical method of securing the desired result, simply because the pressure is not constant and steady and because it is difficult to maintain. A rigid instrument for producing pressure can also damage the overlying skin.

Air Sickness

To the Editor:—How should air sickness be treated? What is the best procedure in regard to selection of food after getting off the plane so as to soothe stomach and regain normal feeling? What foods should be avoided by a person contemplating a long flight?

C. F. M., Illinois.

Answer.—Air sickness, as well as sea sickness and car sickness, is a hypersensitiveness to motion, which

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PRICES INCLUDE POSTAGE

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may even produce vertigo, nausea or vomiting. This hypersensitiveness is often temporary in nature and is due to certain provocative causes which can be eliminated. The group who are constitutionally or permanently hypersensitive must be small, in view of the marked decrease in air sickness according to available records of the large transport companies, giving the incidence as low as 3.3 per thousand passengers.

Provocative causes include intemperate habits of eating and drinking, nervous tenseness, rough air, poor ventilation and excessive altitude without accessory oxygen supply. Looking out at the horizon accentuates dizziness; hence, one so threatened should close the eyes or fix them on some point in the cabin.

The most successful treatment of air sickness is preventive. Neither rich, heavy nor gas-producing foods should be eaten before or during flight. An alkaline effervescent drink is helpful and is usually found on board. Frequent swallowing until the ears are cleared makes for more general comfort. Chewing gum may make swallowing easier.

The small number who are constitutionally "poor flyers" can usually prevent symptoms by taking medication before going aboard or before the symptoms have progressed. A quick acting sedative that does not have prolonged effect is preferable. It should, of course, be prescribed by a physician.

Preservation of Eggs

To the Editor:—Are egg substitutes used extensively in the bakery business? What chemicals are used to treat frozen eggs? Powdered eggs? What preservatives are used in keeping frozen or powdered eggs?

L. H., California.

Answer.—Egg substitutes are not used by the baking industry in the United States, although they are sometimes employed in foreign countries. According to the American Institute of Baking, approximately 18 billion eggs are purchased annually by bakers in this country for making cake, sweet rolls and bread. The bulk of these are fresh eggs, but frozen eggs are also employed. Few powdered eggs are ever used by American bakers.

Frozen eggs are not treated with chemicals of any kind. Carefully selected eggs are chilled, removed from the shell under sanitary conditions, placed in sterilized containers, and frozen. They are then kept at a temperature of 0 F. or less. Scientific studies have shown that there are no changes in the composition, quality or nutritive properties of frozen eggs, even after they have been kept for years. This process was, in fact, developed with the aid of government scientists.

Eggs are powdered in much the same way that milk is dried, usually by spraying under pressure into a heated chamber. No preservatives or chemicals are added.

Asphyxiation by Smoke

To the Editor:—What is the best emergency first aid treatment to give to a person who is overcome by smoke? What can be done for smoke poisoning? In the particular case I have in mind, the person's stomach is affected. Does it take a definite time to overcome the effects of smoke poisoning?

M. F., Pennsylvania.

Answer.—Three stages of asphyxia are caused by smoke. In the first stage the person is nauseated, face and eyes flushed and pulse full and bounding. If the person is able to walk, he usually staggers. He is entirely conscious. In the second stage the person is stuporous or comatose; that is, he may be partially or wholly unconscious but is still breathing. In the third stage, the person is unconscious and is not breathing.

The treatment of the first stage is to assist the person to the fresh air. Two teaspoonfuls of effervescent sodium phosphate in a glass of water will often act as an emetic. The person will vomit, which will tend to free the smoke from the stomach and lungs. After this, rest and fresh air for a short period of time will usually suffice.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

In the second stage of smoke asphyxia, the person is totally or partially unconscious but is still breathing. Respirations must be watched in order to render artificial respiration immediately if necessary. The person is carried or removed on a stretcher to the fresh air. If available, carbon dioxide may be administered. When the person regains consciousness, he may become nauseated and vomit. If he is sufficiently conscious, effervescent sodium phosphate may be given.

In the third stage of smoke asphyxia with unconsciousness and cessation of breathing, artificial respiration should be rendered immediately by the Schafer prone pressure method. Inhalation of 90 per cent oxygen and 10 per cent carbon dioxide should be given while artificial respiration is administered.

In the particular case mentioned, it is stated "the person's stomach is affected." We do not find there are usually any complications or sequels to smoke asphyxia; but there are two exceptions:

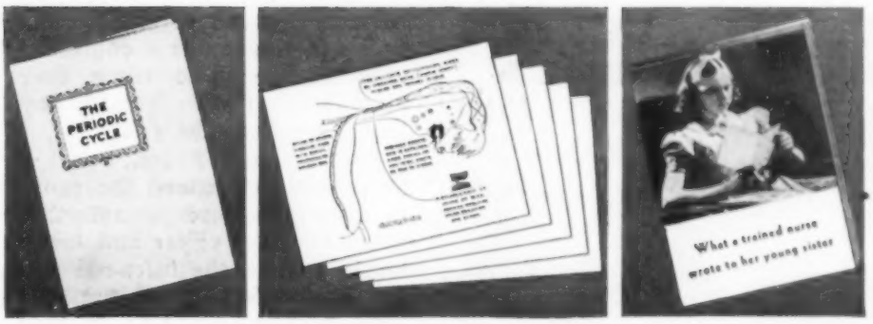
1. A person may have some pre-existing condition, such as heart disease or disease of the stomach.

2. A case of asphyxia by smoke impregnated with some chemical such as an acid or alkali or impregnated with illuminating gas. Smoke impregnated by ammonia, nitric or sulfuric acid may cause severe symptoms sometimes associated with acute suffocation from edema [swelling] of the glottis in the voice-box. Smoke impregnated with illuminating gas may cause secondary anemia due to destruction of the coloring content of the red blood corpuscles or may cause severe disorders of the nervous system.

Infra-Red Filter Glass for Spectacles

To the Editor:—Supposing a man were to wear glasses made of pure infra-red filter glass so fashioned that no side light could enter from around the rims or no rays of any light enter his eyes but those rays used in infra-red ray photography. To the normal eye, such glasses would be non-transparent.

If worn continually, would the optic nerve take on the ability to "see" via the infra-red rays? This



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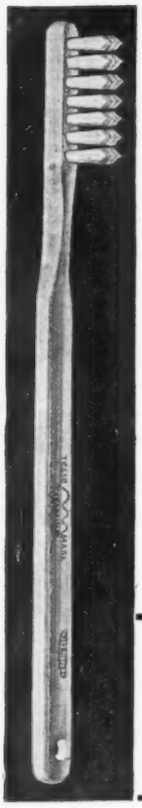

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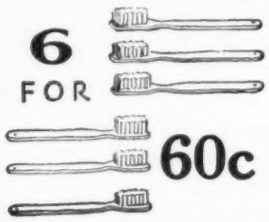

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assumes that all original seeing began in infancy as a continued play on the optic nerve over months of time. Would any injury result to the eye?

By the use of filters, would it be possible to extend the range of light-wave perception farther along both the upper and lower levels, that is, the infra-red and the ultraviolet? Assuming that infra-red sight could be attained through the use of an infra-red filter, how would normal sight without the filter be affected?

What is the ultimate range of the human eye under long training over that of the normally untrained eye? J. E., Alaska.

Answer.—Contrary to the supposition of the inquirer, an enormous amount of experimental work has been performed in relation to the visibility of the infra-red end of the spectrum. This was started back in the early part of the nineteenth century, and from it all there has developed a fair degree of unanimity of opinion. There is a remarkably concise abstract of the major works together with adequate bibliography in the "Textbook of Ophthalmology" by Sir Stewart Duke-Elder, Vol. 1, page 809.

The limit of visibility of the red end of the spectrum ceases at 7,500 Angström Units (Å). From there on, the heat waves extend on up to over 30,000 Å, none of which are visible. The media of the eye (cornea, aqueous humor, lens and vitreous) absorb all of the long waves above 15,000 Å, which are not recorded by the optic nerve. Below this point, there is an ever increasing absorption, until at 7,700 Å, practically 94 per cent of the waves reach the retina. But until this point has been reached, only about 3 per cent of the total heat incident on the eye reaches the retina, the remainder being absorbed by the various transparent tissues of the eye. The visual limits of the color spectrum are between 4,000 and 7,500 Å.

The transformation of light waves into visual nerve stimuli occurs in certain cells in the retina by the photoblanching of a chemical substance in the cells known as visual purple (rhodopsin). Light waves of specific length within the visible spectrum have definite bleaching powers which have been charted accurately by Trendelenburg. The long waves of the red end of the spectrum have only about one fourth of such power as have the yellow waves of around 5,000 Å. The break of the curve is rapid, so that beyond 7,000 Å the red waves have practically no bleaching power whatever. In other words, visual stimuli cannot be excited by light waves longer than 7,500 Å.

With this prelude, let us now proceed to the questions direct. In the first place, vision occurs not through the optic nerve but through the nerve cells of the retina. These cannot be stimulated by light waves that lie in the infra-red spectrum, even if a sufficient number of such waves could penetrate the tissues of the eye and gain access to the retina. Visual purple is a definite chemical entity, and no amount of usage can change its character; consequently, the eye could never learn to see in infra-red light alone because the photochemical rhodopsin does not respond to such wave lengths.

The remainder of the questions are so speculative that they cannot be answered.

Familial Nephritis

To the Editor:—Five years ago after a serious case of tonsillitis, my daughter had an acute attack of nephritis which has not shown up again until now. She seems in good health but had a slight cold some time ago.

I have one daughter who has had chronic glomerular nephritis the past seven years. Can you tell me why they should both have kidney disease? No one on either side of our families has had nephritis that I know of.

R. S., North Dakota.

Answer.—The occurrence of nephritis in more than one member of a family not as a result of scarlet fever is not common, but it does happen. Reports have appeared of the development of chronic glomerular nephritis in several members of the same family. In some instances the disease seems to have a hereditary aspect. At times it appears that there is a familial reduction of resistance of the kidney to certain infections, especially of the streptococcal type.

REVOLUTION in FOOTBALL (Continued from page 1023)

head gears, shoulder pads and football shoes, which, it is maintained, are being made of too hard substances. Qualified students of football insist that we are putting too much armour on our players and that if we had less equipment, made of softer material, injuries would be reduced. In any event, changes in the type of wearing apparel are bound to come in many sections of the country in the near future. In one state, athletic officials are advocating the elimination of hard fiber cleats on football shoes and the adoption of rubber soled shoes made especially for football playing.

And now we come to the most vicious and involved battle in the revolution in American football: the evils of commercialism and professionalism. Huge gymnasiums, field houses, stadiums, all costing thousands of dollars, and high salaried coaches make the dollar mark stand out like a huge banner, waving high in the sky over all our athletic contests. And those who are opposed to the overemphasis of the dollar mark in interschool athletics are saying that football is justifiable only if it contributes something to the education of the players and the student bodies they represent.

Robert Brown, writing in the April 1939 issue of *The Journal of Health and Physical Education*, says:

"The financing of athletics has caused too much grief for those who are responsible for this part of the program. It is from this phase of our program that most of the overemphasis of interscholastic athletics results. We set up an expensive program and plant, and then make it imperative for a coach to win in order to meet the budget for expenses. . . . What does this lead to? It necessitates high-pressure athletics, with all the attendant evils, to make good the payment of this plant. The coach will have to win, above all else, or probably lose his position. All educational principles will be cast aside. I feel that if we are to de-emphasize athletics, it is here that the de-emphasis should begin. In this connection, . . . Harvard University now has about $200,000 in its athletic endowment fund, which is designed ultimately to end dependence on gate receipts."

Mr. Brown, who at the present time is a high school principal, has also been a player, coach, athletic director and official of athletic games. Consequently, he writes with authority on the problems connected with interschool athletics. He realizes, quite obviously, that commercialism and professionalism force coaches, whether they will it or not, to drive players at a pace which is detrimental to their health and which, too often, results in injured players participating in games when they should be resting on the bench. For with commercialism and professionalism, winning the game becomes all important, a necessity!

It is going to take a lot of education and readjustment of thought on the part of many followers of football to reduce commercialism and professionalism in interschool athletics. Suggestions are being considered, as far as public schools are concerned, that boards of education provide budgets for the financing of the interscholastic programs. If a small admission at the gate is to be charged, the money from this source should go into general funds controlled by the boards of education. But the most likely development is to stage athletic contests without charging spectators. This, plus the fact that coaches should be trained physical education teachers and that their job should not depend on winning teams, would eliminate many of the evils which now surround interscholastic sport, and which, indirectly at least, are detrimental to the health of football players.

Obviously, all is not quiet on the football front. Furthermore, the revolution in American football is not just a temporary matter. There are plenty of people fighting in this revolution, from those who would eliminate interscholastic football altogether to those who see no ills whatever connected with the game. This point of view, however, has fewer exponents every year. There are ills connected with interscholastic football, which no one can dispute. The sensible attitude seems to be to admit this fact and to continue, as is being done in many sections of the country, to regulate football, for it can be played for the educational advancement of both players and spectators.

Sad to relate, that is a tragedy which will occur several million times during this school year. Half the school failures may be traced to poor vision. Most of them could be prevented by professional eye care at the proper time.

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BOOKS ON HEALTH

Sex Education

By Maurice A. Bigelow. Revised Ed. Cloth. Price, $1. Pp. 307. New York: American Social Hygiene Association, 1936.

This book has been revised after twenty years. It is a book that deals principally, if not exclusively, with the problem of the need for sex education. It is true that in 1916 the great argument was between those who felt there was a need and those who felt there was no need for general education on sex matters. This is no longer a problem, as it is now almost universally agreed that sex education is necessary and should be made available to all children. The problem today is to find how sex should be taught, not merely shall it be taught.

The volume is printed in type that is somewhat difficult to read. This is easily understood, as the author has attempted to keep the price down to its lowest possible level.

The book is of value as a historic document. It has further value in giving a selected bibliography. Bibliographies are always welcome to the teacher and to the parent who takes seriously his responsibilities of educating the child.

PAUL A. TESCHNER, M.D.

The Health Program in University High School

By Marion Brown. Paper. Price, 35 cents. Pp. 65. Oakland, Calif.: University of California University High School, 1938.

The health program in the Oakland, Calif., University High School has been developing over a period of years, but the most significant advance was made possible in 1930 by a grant of money by the Tuberculosis Association of Alameda County and the state of California.

This report of the organization, administration and experience of a health program functioning as an integral part of one of the eight senior high schools of Oakland is a valuable contribution to the literature pertaining to school health programs. The attention and interests of teachers, counselors and administrators is directed toward the child as a whole, and the health program is directed toward the achievement of three purposes:

1. To furnish the teaching and administrative staff with information concerning health conditions which may affect the student;

2. To advise teachers, counselors and administrators the adjustments needed by individual students to enable them to better follow the school routine, and

3. To assist in formulating and directing policies and procedures which affect the well-being of the school population.

Adjustments made in school life because of health include a shortened school day, a lightened academic program, a lightened extracurricular program, modification of physical education or general school routine, a modification in classroom procedures, financial assistance and cooperation with parents and physicians. A convalescent room is a useful part of the school facilities.

This report is a valuable analysis of an apparently well coordinated school health service in which 40 per cent of the students are referred to the health service during the school year. The program in the University High School is not static, but is adaptable to changing needs.

R. G. LELAND, M.D.

Safety and Sanitation in Institutions of Higher Education

By James Frederick Rogers, M.D. Paper. Price, 10 cents. Pp. 22. Washington, D.C.: U. S. Department of the Interior, 1938.

What is higher education? Is it concerned with the health of its students? Is health, Latin, mathematics or paleontology put first? Is the school or college environment healthful? Is anybody held responsible for the health of the students? Are the buildings planned for health?

These were some of the questions considered by Dr. Rogers in his investigation of safety and sani-

"It was getting pretty monotonous!"

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tation in colleges. The results of this study should be most embarassing to our colleges and universities. "Hardly more than 5 per cent of these agents who assume responsibility for the welfare of students have had professional training," he declares. Within the last forty years there has been little advance in assuming responsibility for the conditions of rooming houses, and there are many instances of neglect in the food service of college dining rooms. Although there are some institutions that are sensitive to their opportunities and responsibilities in regard to health, the vast majority seem to be in a rut. It is still true that linguistic or mathematical welfare seems to be more important to college administrators than health.

J. Mace Andress, Ph.D.

Of Yesterday and Tomorrow

By E. O. Laughlin (Eolus). Price, $1.50. Pp. 108. Kansas City, Mo.: Brown-White Company, 1938.

Dr. E. O. Laughlin, who contributes to many newspapers and magazines under the pseudonym of "Eolus," has collected here many of his best poems. They deal with medicine in part but much more with many a current phase of life. His poems are marked particularly by rhythm and by a whimsical humor. Here is the concluding verse of his poem on the hospital:

"My world has come to be so small, so small,
And other worlds, like mine, are down the hall,
Held in their orbs; grim, gray-walled universe,
Ruled by fiat of doctor and of nurse. . . .
I turn my face and, through a window, see,
At dusk, a star, at dawn, a towering tree."

Morris Fishbein, M.D.

The School Health Program

By C. E.-A. Winslow. Cloth. Price, $1.50. Pp. 120. New York: McGraw-Hill Book Company, 1938.

The Report of the Regents' Inquiry, according to the foreword, "was undertaken in order to find out what the educational system of the State [New York] is accomplishing, how well its total program fits present-day needs, and what the costs of that program are and should be." The book is in seven sections, dealing respectively with the school health program, sanitation, mental hygiene, health instruction, physical education and recreation, health services and a summary of recommendations.

The report includes a careful study of the various phases of the school health program. In many phases the program is regarded by the author as inadequate. He is especially critical of the physical examination, pointing out that in certain places so-called physical examinations were made of from eighty to ninety pupils per hour. The state law requires an examination each year, but the personnel is so inadequate that the only way in which satisfactory examinations can be performed is by ignoring the law and making more careful examinations at less frequent intervals. Other criticisms of the school health service include the lack of vaccination and of any effective program for the control of tuberculosis. Nor does the program of correcting physical defects appear satisfactory. Coordination of school health service with special reference to the curriculum as a whole is also unsatisfactory, and there are numerous references to lack of cooperation; failure to use facilities and similar criticisms are leveled at other phases of the school health program, particularly that in mental hygiene.

The author has alined himself most emphatically with those who believe that the medical profession has failed to deliver adequate medical care to the people and who wish to see the responsibility for medical care, as well as public health activity, centered in the government. It is inconsistent to wish to place on government more responsibilities for the health of large groups of people when government, in this instance at least, has failed to discharge many of its fundamental obligations to the children in the schools.

W. W. Bauer, M.D.

Health Officers' Manual

By J. C. Geiger, M.D. Cloth. Price, $1.50. Pp. 148. Philadelphia: W. B. Saunders Company, 1939.

Much knowledge has been accumulated regarding public health. There is, however, a need for its wider utilization. In order to further this use, this manual for health officers and public health workers has been prepared. It includes sections on organization, records and statistics, medical services, inspection and control services.

The book is clearly written and not too detailed. No controversial subjects are discussed. The book is adequately indexed, which adds to its usefulness as a reference manual. It should be found useful not only for those actively engaged in public health activities but also for the average lay individual.

William J. Fishbein, M.D.

Drums, Tom-Toms and Rattles

By Bernard S. Mason. Cloth. Price, $2.50. Pp. 206. Illustrated. New York: A. S. Barnes & Co., 1938.

As a craft book in the library of a summer camp, if such would have a library, this book would find its place. It relates the history of drums, from their most primitive forms down, and devotes a chapter to instruction on the choice of materials for making the different forms of noise makers.

Sibyl Wisner Johnston.

Fighting Africa's Black Magic

By Madge Haines Morrill. Price, $1.25. Pp. 155. Mountain View, Calif.: Pacific Press Publishing Association, 1938.

This little book is a story of medical missionaries in Africa. It is amateurishly written but with obvious sincerity. It is of more interest to the missionary minded than to the medical minded. The author's primary motivation is religious; medicine is the means of introduction for the missionary, though of course medical aid is extended to all natives within the resources of the mission, regardless of the success of the missionary effort.

Despite its amateurish style, the book should be of interest to all who wish to know about the contributions of medicine to the missionary movement.

W. W. B.

Regain Your Figure

By Lt.-Col. J. K. McConnel. Cloth. Price, $2. Pp. 128. Illustrated. Cleveland: The Sherwood Press, 1939.

The author's aim in writing this book is to show the mother how to help herself during the first few weeks after childbirth. He believes that the period of enforced leisure after childbirth is a splendid opportunity in which to acquire habits that will bring a new suppleness, a more slender silhouette and a balanced graceful poise. The book describes in nontechnical language

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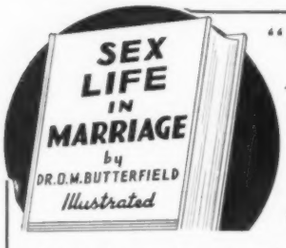

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permanent benefits derived from simpler muscular activities. The convalescent treatment advocated is based on automatic (versus conscious) control of muscles. Since the author believes that the commonest cause of failure to regain the figure after childbirth is probably faulty posture before childbirth, he discusses prophylactic measures.

The book is abundantly and beautifully illustrated so that any woman can readily imitate the exercises suggested.

Undoubtedly a careful reading of this book will be most helpful to women because the exercises are based on sound orthopedic teaching. However, it will be difficult to convince most women to spend enough time studying this book to derive the benefits which are claimed for the exercises.

JACOB P. GREENHILL, M.D.

The School Custodian

By James Frederick Rogers, M.D. Paper. Price, 10 cents. Pp. 44. Washington, D.C.: U. S. Department of Interior, 1938.

Dr. Rogers' investigation about school janitors covered all cities having a population of more than 10,000 persons and those having 2,500 to 10,000 people in nine representative states. Although he finds that the janitor is regarded with more respect than he was fifteen years ago when a similar investigation was made, janitors still have little or no training for their work. Usually no educational qualifications are required of them even to the speaking of English. Ordinarily, no physical examination is required.

J. M. A.

Food Health Vitamins

By R. H. A. Plimmer and Violet G. Plimmer. Eighth Ed. Cloth. Price, $1.60. Pp. 233. New York: Longmans, Green & Co., 1939.

The present edition of this well known little monograph on foods and health has been revised in accordance with current authorative information. The book provides an adequate discussion of all the dietary essentials. Illustrative diets are listed, though it is unfortunate that for the American reading public the data provided in some of the tables have not been transferred into the common units of weights and measures of the United States. There is, for example, a so-called potato diet which lists an economical and nutritionally satisfactory diet for a small family. "Three stone" of potatoes are included in the diet list at an estimated cost of "three shillings sixpence." But the American reader will find much of value in this book even if the values presented in the tables in the appendix are in terms of inconvenient units.

There is considerable teaching value to the diagram of what the authors call "a square meal." Within a large square is a circle; the four corners of the square represent important vitamins, A and D together in one corner, B or B_1 in another, C in a third and B_2 or G and the anti-pellagra factor in the fourth. The energy foods are represented within the circle and comprise the carbohydrates and fats. Within an inner circle, are represented the structural components of the diet, the proteins and mineral salts. There is a colored diagram of this chart which serves as a frontispiece to the book. This in itself would well repay careful study by those interested in methods of teaching the fundamentals of nutrition.

FRANKLIN C. BING, PH.D.

Training for Championship Athletics

By C. Ward Crampton, M.D. Cloth. Price, $2.50. Pp. 303. New York: McGraw-Hill Book Company, 1939.

As participant, physical educator and physician, Dr. Crampton has been associated with athletics for many years and is qualified to write authoritatively. Moreover, he writes interestingly, partly because his contacts with athletes enable him to illustrate his points by intimate references to prominent figures in the world of sports, which make the material especially readable for boys, although it is also valuable for coaches and older participants.

The first part of the book is devoted to general observations on such subjects as style, training, muscular development and coordination, enlivened by illustrations from the diet, training methods, habits and styles of athletes like Glenn Cunningham and Bob Feller. The second part deals with details of training for specific activities such as sprinting, distance running and pitching, together with definite suggestions for diet in training.

DUDLEY B. REED, M.D.

Techniques Used by the Teacher During the Nursery School Luncheon Period

By Gertrude M. Borgeson, Ph.D. Cloth. Price, $2.35. Pp. 214. New York: Bureau of Publications, Teachers College, Columbia University, 1938.

This is a technical volume of interest to those teachers concerned with the nutrition and education of young children. It records the observations made on ten teachers and forty-eight children during the noon meal period. The children ranged in age from just under 2 years to over 4 years. The teachers were rotated at intervals so as to get the various technics of each one with different groups. The purpose of the study was primarily to observe the various behavior problems during the mealtime and the method used by the teacher, guiding the children with the problem.

The bibliography appears to be fairly complete. But some readers wishing to consult the thirty-six titles listed may experience some difficulty in obtaining them. Seven are unpublished theses submitted to the University of Chicago for a higher degree, and others are articles from technical journals, such as *American Journal of Diseases of Children*. Not all libraries have these available.

The conclusion and summary bear out the fact that the most serious behavior problems in eating originate in the home, where emotional difficulties exist and are present at the dining table. These will be met not by "letting down of standards" but by using proved ways of developing a better child-adult relationship and making mealtime a happy time for all.

P. A. T.

NOTICE

Books reviewed in this section should be ordered from booksellers or direct from the publishers. They may not be secured through HYGEIA or the American Medical Association, unless published by this organization. The following list contains the addresses where the publishers may be reached:

American Social Hygiene Association, Inc., 50 W. 50th St., New York.

McGraw-Hill Book Company, 330 W. 42nd St., New York.

W. B. Saunders Company, West Washington Square, Philadelphia.

A. S. Barnes & Co., 67 W. 44th St., New York.

The Sherwood Press, Box 552, Edgewater Branch Post Office, Cleveland.

Longmans, Green & Co., 114 Fifth Ave., New York.

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A Compilation of Books on Health

By a cooperative effort between the American Library Association and the American Medical Association a list of authentic books in the field of health has been prepared and classified according to many special topics. This list is being published in three issues of *Hygeia*, and the third instalment appears below. The complete list as well as separate leaflets for some of the special subjects are now available in pamphlet form.

MENTAL HYGIENE

ANDERSON, CAMILLA M. *Emotional hygiene: the art of understanding.* Price, $2. J. B. Lippincott Company, 1937.

Practical advice on the education of the emotions for nurses, parents, teachers, social workers or the layman. Beginning with advice on the rearing of children, the discussion is concerned with the growing-up process and later adjustment to life. Scientifically and simply told.

BASSETT, CLARA. *Mental hygiene in the community.* Price, $4. The Macmillan Company, 1934.

A comprehensive picture of the relation of mental hygiene to some of the urgent problems of community life. Of interest to physicians, educators, ministers, lawyers, nurses and social workers.

BURNHAM, WILLIAM H. *The wholesome personality; a contribution to mental hygiene.* Price, $3.50. D. Appleton-Century Company, Inc., 1932.

The book is an attempt to present the scientific conception of the normal integrated personality, the conditions that seem favorable to its wholesome development and some of the conditions likely to produce personality disorders. It is positive, dynamic, constructive, logical; it aims toward the prevention rather than the cure of mental disorder.

CATTELL, RAYMOND B. *Crooked personalities in childhood and after; an introduction to psychotherapy.* Price, $2. D. Appleton-Century Company, Inc., 1938.

Current psychologic methods of treating difficult and nervous children are well described for the layman, with explanations of the limitations and contributions of Freud, Jung and Adler. Case histories are taken largely from the author's personal experience while directing the work of the psychologic department in Leicester schools. A useful book for parents and teachers.

CHAPPELL, MATTHEW N. *In the name of common sense.* Price, $1.75. The Macmillan Company, 1938.

Takes up the different manifestations of worry and offers a simple method of getting rid of the habit and discomforts it entails.

FISHBEIN, MORRIS, and WHITE, WILLIAM A. *Why men fail.* Price, $2. D. Appleton-Century Company, Inc., 1928.

The book is in the finest sense a popularization. In the sanest, clearest and most helpful way, it presents to the layman much of what he needs to know about what is dangerous to his welfare.

FISHER, VIVIAN E., and HANNA, JOSEPH V. *Dissatisfied worker.* Price, $1.75. The Macmillan Company, 1931.

Presents in brief and concise fashion the generally recognized "mental mechanisms" by which symptoms of dissatisfaction develop in workers, regardless of the influence of working conditions. The worker emphasized in the book is perhaps better recognized as the troublesome worker or the queer worker, rather than as the dissatisfied worker.

GROVES, ERNEST R., and BLANCHARD, PHYLLIS M. *Introduction to mental hygiene.* (American social science series.) Price, $4. Henry Holt & Co., 1930.

Discusses helpfully and in nontechnical chapters the importance of the proper mental hygiene in different ages and relationships. It is understandable, and one does not have to be versed in the language of the alienist to profit by it. It is recommended to the average reader with confidence.

HOWARD, FRANK E., and PATRY, FREDERICK L. *Mental health; its principles and practice.* Price, $3.50. Harper & Brothers, 1935.

Intended to help the student and professional worker to understand his mental organization and avoid the more common deviations from mental health.

JACKSON, JOSEPHINE A. *Guiding your life with psychology as a key.* Price, $2.50. D. Appleton-Century Company, Inc., 1937.

Practical guidance for the average reader in the experiences of life from infancy to old age. Separate part for each of the seven ages of man.

JACKSON, JOSEPHINE A., and SALISBURY, HELEN M. Outwitting our nerves. Second Ed. Price, $2.50. D. Appleton-Century Company, Inc., 1932.

How the individual may arrive at a more healthful attitude toward the fears and annoyances of everyday life.

JACOBSON, EDMUND. *You must relax.* Price, $1.50. McGraw-Hill Book Company, 1934.

A popular treatment of the subject written for the layman, bringing out clearly the need for relaxation and discussing its therapeutic value in connection with worry, insomnia, indigestion and high blood pressure.

JASTROW, JOSEPH. *Piloting your life; the psychologist as helmsman.* Price, $1. Greenberg, Publisher, Inc., 1930.

This is frankly aimed at a popular audience, as was its companion volume, "Keeping Mentally Fit." These two volumes, growing out of a popular newspaper column, depart from the style of the author's more scholarly works in increasing simplicity and crispness of utterance.

KIRKPATRICK, EDWIN A. *Mental hygiene for effective living.* Price, $3. D. Appleton-Century Company, Inc., 1934.

The author has used facts from the fields of anthropology, physiology, sociology, psychology, child study and education and organized them in such a way as to be helpful to all persons interested in social and industrial mental hygiene, especially to those dealing with children.

McCARTHY, RAPHAEL C. *Safeguarding mental health.* (Science and culture series.) Price, $2.50. The Bruce Publishing Company, 1937.

Outlines briefly the conditions that lead to the more serious mental diseases. It is intended principally for parents and teachers to help them to safeguard the mental health of children but will be found the safest of mirrors for self study by adults.

MENNINGER, KARL A. *The human mind.* Second Ed. Price, $5. Alfred A. Knopf, Inc., 1937.

The nature of the human mind written with a view to equipping the layman, the student and the professional with the means of coping with its abnormalities.

MORGAN, JOHN J. B. *Keeping a sound mind.* Price, $2.25. The Macmillan Company, 1934.

The doctrine that "mental health is dependent in large part upon the formation of certain mental habits, and the elimination of certain others" is here developed for college students of mental and even general hygiene; combining thorough technical knowledge with common sense and appreciation of the ordinary person's point of view.

PITKIN, WALTER B. *Take it easy.* Price, $1.75. Simon & Schuster, Inc., 1935.

Points out the need for relief from the nervous and physical tension of modern life and suggests various methods of relaxation, with advice about diet, exercise and hobbies.

PRATT, GEORGE K. *Your mind and you.* (National health series.) Second Rev. Ed. Price, 35 cents. Funk & Wagnalls Company, 1937.

THOM, DOUGLAS A. *Normal youth and its everyday problems.* Price, $2.50. D. Appleton-Century Company, Inc., 1932.

A discussion of the problems of adolescence; written for parents, teachers, camp directors and others interested in the training and development of youth.

WALSH, WILLIAM S. *Peace of mind and body.* Price, $2.50. E. P. Dutton & Co., Inc., 1933.

A physician offers sane counsel concerning both physical and mental well-being and the attainment of inner peace. The book is intended for general reader, not simply for the scholar.

WOLFE, WALTER B. *How to be happy though human.* Price, $2.50. Farrar & Rinehart, Inc., 1931.

A practical book of guidance in developing an effective personality and happy human relations in life.

WOLFE, WALTER B. *Nervous breakdown: its cause and cure.* (New title: *Calm your nerves.*) Price, $2.50. Farrar & Rinehart, Inc., 1933.

The book is exceedingly well written, contains a fund of excellent advice, is well balanced in its scientific outlook and is distinctly practical. It shows ample evidence of orderly thinking and presents suggestions in a common sense and usable fashion. It can be unreservedly recommended to the layman.

WORCESTER, ELWOOD. *Making life better.* Price, $2. Charles Scribner's Sons, 1933.

Its aim is to "throw light on some of our inner conflicts and to afford solutions to some of the problems of our existence."

MENTAL DISORDERS

ADAMSON, ELIZABETH I. *So you're going to a psychiatrist.* Price, $2.50. Thomas Y. Crowell Company, 1936.

Chapters on modern psychiatric thought, expressed in simple language for the layman. Partial contents: From intuition to intelligence; Politics of the mind; Running from ghosts; Nervous breakdown; The baby's five-year program; Queer people; Dangerous children.

BEERS, CLIFFORD W. *A mind that found itself; an autobiography.* Rev. Ed. Price, $2.50. Doubleday, Doran & Co., Inc., 1935.

Account of the author's experience in a private sanatorium and in an insane asylum. His purpose in writing the book is to rob insanity of many of its terrors, at least those which do not rightly belong to it; to correct existing abuses, and to elevate the standard of treatment.

BROMBERG, WALTER. *The mind of man; the story of man's conquest of mental illness.* Price, $3.50. Harper & Brothers, 1937.

Written for laymen by an authority, this book gives a readable, fascinating and even exciting picture of the various modes of treatment of mental illness from the time of magic to the present.

DEUTSCH, ALBERT. *The mentally ill in America; a history of their care and treatment from colonial times; with an introduction by W. A. White.* Price, $3. Doubleday, Doran & Co., Inc., 1937.

Scholarly but highly readable account of the development through the centuries of the care and treatment of the mentally ill, especially in state institutions.

HORNEY, KAREN. *Neurotic personality of our time.* Price, $3. W. W. Norton & Co., Inc., 1937.

Study of the underlying forces which motivate the actions of neurotic persons. Clearly written; for intelligent laymen, social workers, teachers and psychiatrists.

KRAUCH, ELSA. *A mind restored; the story of Jim Curran.* Price, $2.50. G. P. Putnam's Sons, 1937.

A man who was a sufferer from manic-depressive psychosis describes his illness, his years in a well managed state hospital where his sanity was restored and his difficult readjustment to normal life. Quietly written, sane and unsensational.

NATIONAL RESEARCH COUNCIL. Committee on psychiatric investigation. *Problems of mental disorders.* Price, $4. McGraw-Hill Book Company, 1934.

Aims to discover what the actual state of psychiatric knowledge is and how it may be advanced.

OLIVER, JOHN R. *Fear, the autobiography of James Edwards.* Price, $2.50. The Macmillan Company, 1927.

The imaginary biography of a business man whose fear of ailing health has brought him to the verge of insanity is made the vehicle of much sound and stimulating advice for the cure of mind and body through mental analysis and control.

ROBERTS, HARRY. *The troubled mind.* A general account of the human mind and its disorders and their remedies; with chapters on the insanities, by Margaret Nelson Jackson. Price, $2. E. P. Dutton & Co., Inc., 1939.

MARRIAGE and ITS PROBLEMS

BERKOW, SAMUEL G. *Childless: a study of sterility.* Price, $3. Lee Furman, Inc., Publisher, 1937.

A study of sterility, its causes and treatment.

BROMLEY, MRS. DOROTHY D. *Birth control: its use and misuse.* Price, $2.50. Harper & Brothers, 1934.

Summarizes the arguments for birth control and gives medical opinion concerning the use of various methods and devices.

BUTTERFIELD, OLIVER M. *Sex life in marriage.* Price, $2. Emerson Books, Inc., 1937.

EVERETT, MILLARD S. *The hygiene of marriage.* Price $2.50. The Vanguard Press, 1932.

Includes material on the anatomy of sex and birth control.

EXINER, MAT J. *The sexual side of marriage.* Price, $1. W. W. Norton & Co., Inc., 1932.

Discusses the potentialities of sexual and emotional factors in making for misery or happiness in marriage. Written for young people contemplating marriage and for those who are experiencing difficulties in their married life.

FOLSOM, JOSEPH K. *Plan for marriage; an intelligent approach to marriage and parenthood, proposed by members of the staff of Vassar College.* Price, $3. Harper & Brothers, 1938.

These entirely forthright, informational chapters by authorities are the outgrowth of a course on marriage and family life given at Vassar College in 1937. The advice is addressed both to men and women. The illustrations may make supervised circulation necessary.

GALLOWAY, THOMAS W. *Love and marriage.* (National health series.) Rev. Ed. Price, 35 cents. Funk & Wagnalls Company, 1937.

GOOD HOUSEKEEPING MARRIAGE BOOK (THE). *Twelve ways to a happy marriage.* Introduction by William F. Bigelow; foreword by Helen Judy Bond. Price, $1.96. Prentice-Hall, Inc., 1938.

Twelve articles by persons equipped by years of study and experience to write on marital problems. These have appeared in *Good Housekeeping* magazine.

GROVES, ERNEST R. *Preparation for marriage.* Price, $1.50. Greenberg, Publisher, Inc., 1936.

A simple, practical and liberal-minded discussion which will be useful in most libraries. Contents: Getting ready to be married; Problems of health and heredity; To be or not to be a parent; Meaning and value of premarital examination; Content of the premarital examination; Building the domestic program.

GROVES, ERNEST R., and GROVES, MRS. GLADYS H. *Sex in marriage.* Price, $3. Macaulay Company, 1931.

Aims to give briefly and clearly information which is most useful in helping young people meet the sex demands of marriage.

GROVES, MRS. GLADYS H., and ROSS, ROBERT A. *The married woman: a practical guide to happy marriage.* Price, $2.50. Greenberg, Publisher, Inc., 1936.

Combines scientific theory and practical experience in this discussion of the problems and advantages of marriage.

HUTTON, ISABEL E. *The sex technique in marriage.* New Ed. Price, $2. Emerson Books, Inc., 1936.

Practical and detailed information about the sex relationship in marriage.

LATZ, LEO J. *The rhythm of sterility and fertility in woman.* Price, $1. Latz Foundation, 1934.

Principal presentation is a description of findings relative to a rhythm of fertility in woman by Drs. Ogino and Knaus regarding "natural birth control."

LEVY, JOHN, and MUNROE, RUTH. *The happy family.* Price, $2.75. Alfred A. Knopf, Inc., 1938.

Somewhat informal in style and illustrated with case histories throughout the text. Written with humor and sympathy. Contents: How families begin; Settling down to marriage; The other woman; Sexual satisfaction; Living together; Work and money; Children; the consummation of marriage; All children have difficulties.

SADLER, WILLIAM S., and SADLER, LENA K. *Sex life before and after marriage.* Two Vols. Price, $2.98. American Publishers Corp., 1938.

These authoritative volumes tell simply and frankly those facts which should be known about sex and sexual relations.

STONE, HANNAH M., and STONE, ABRAHAM. *A marriage manual; a practical guide to sex and marriage.* Price, $2.50. Simon & Schuster, Inc., 1935.

This book presents in a realistic and concrete manner and in simple, non-technical language the essential facts of mating and reproduction. It is written in the form of hypothetic consultations between a physician and a young couple about to be married.

TIETZ, ESTHER B., and WEICHERT, CHARLES K. *The art and science of marriage.* Introduction by Morris Fishbein. Price, $2.50. McGraw-Hill Book Company, 1938.

An analysis of the marriage problem from both a mental and a biologic point of view.

WALKER, KENNETH M. *Preparation for marriage.* Price, $2. W. W. Norton & Co., Inc., 1933.

A wise and carefully written book on subjects with which those about to marry are confronted.

WESTERMARCK, EDVARD A. *Future of marriage in Western civilization.* Price, $3. The Macmillan Company, 1936.

Sober, precisely stated and well documented analysis of the various forms and manifestations of marriage to the practical question of the present position and the future of marriage in modern Western civilization. Suitable for the educated layman.

WHITNEY, LEON F. *Case for sterilization.* Price $2.50. Frederick A. Stokes Company, 1934.

Discusses the problem of sterilization in its various aspects.

WILE, IRA S. *The man takes a wife; a study of man's problems in and through marriage.* Price, $2.50. Greenberg, Publisher, Inc., 1937.

A psychiatrist here addresses husbands who wish to make their marriage a success and who wish to take some responsibility toward that end. He discusses, in plain language, courtship, marriage, fatherhood, middle age and its changes, and old age from a normal, sympathetic point of view. The book will help women as well as men toward maintaining harmony and understanding in family life.

WRIGHT, HELENA. *Sex factor in marriage; a book for those who are or are about to be married.* Rev. Ed. Price, $2. The Vanguard Press, 1937.

Detailed and practical information on the physical intimacies of marriage.

SEX EDUCATION

BELL, EVELYN, and FARAGOH, ELIZABETH. *The new baby.* Price, $1. J. B. Lippincott Company, 1938.

A guide to the problem of how to answer, honestly and simply, a young child's questions on how babies are born; to suggest the child's cooperation in the event of a new baby coming into the home.

CORNER, GEORGE W. *Attaining manhood; a doctor talks to boys about sex.* Price, $1.25. Harper & Brothers, 1938.

Facts about sex, scientifically presented for adolescent boys.

DENNETT, MRS. MARY W. *The sex education of children, a book for parents.* Price, $1.75. The Vanguard Press, 1931.

Designed to awaken in parents the meaning, nature and possibilities of sex education, not as a mode of approach isolated from life, but one bound up in living, a factor for unifying and stabilizing psychic life.

De SCHWEINITZ, KARL. *Growing up.* Second Rev. Ed. Price, $1.75. The Macmillan Company, 1935.

The story of reproduction and birth for boys and girls between the ages of 6 and 12. It is written in story form to be read either to or by the child or to be used by the parents in answering the questions of the child.

DICKERSON, ROY E. *Growing into manhood.* Price, $1. Association Press, 1933.

The treatment of the sexual aspects of the subject is marked by unusual clarity and good taste and combines wholesome idealism with common sense.

DICKERSON, ROY E. *So youth may know; new viewpoints on sex and love.* Price, $2. Association Press, 1930.

Deals chiefly with problems of clean thinking, self control, comradeships with girls, courtships and homemaking. It should have a wide use by educators, religious teachers and all interested in social hygiene.

ELLIS, HAVELOCK. *Little essays of love and virtue.* Price, $1.50. Doubleday, Doran & Co., Inc., 1922.

A fine interpretation of the meaning and place of sex life in harmony with science, human nature and social needs.

ELLIS, HAVELOCK. *Man and woman.* Price, $5. Houghton Mifflin Company, 1929.

Frank and dignified discussion of the part played by sex in human life.

ELLIS, HAVELOCK. *More essays of love and virtue.* Price, $1. Doubleday, Doran & Co., Inc., 1931.

Addressed to an older audience emphasizing that through the new mothers of today the next generation will attain a natural and intelligent attitude toward the functions of sex.

ELLIS, HAVELOCK. *Psychology of sex.* New Ed. Price, $3. Emerson Books, Inc., 1938.

A scientific study intended for medical students but intelligible to the lay reader.

GROVES, ERNEST R., and GROVES, GLADYS H. *Sex in childhood.* New Ed. Price, $2. Macaulay Company, 1936.

Written for parents and discusses in nontechnical language the development of wholesome sex attitudes in children.

GRUENBERG, BENJAMIN C. *Parents and sex education; for parents and young children.* Price, $1. Viking Press, Inc., 1932.

Intended for parents of children under school age and should be extremely helpful, as it is simple and definite.

PARSHLEY, HOWARD M. *Science of human reproduction; biological aspects of sex.* Price, $3.50. W. W. Norton & Co., Inc., 1933.

A frankly written, comprehensive analysis of the biology of sex behavior, which gives a straightforward account of the anatomy and physiology of human reproduction with some discussion of population and eugenics.

STRAIN, MRS. FRANCES B. *Being born.* Price, $1.50. D. Appleton-Century Company, Inc., 1936.

A book to be read by children, which explains the facts of human reproduction and answers many of their actual questions. For junior high school age.

STRAIN, MRS. FRANCES B. *New patterns in sex teaching; the normal sex interests of children and their guidance from infancy to adolescence.* Price, $2. D. Appleton-Century Company, Inc., 1935.

An excellent small book by a mother and lecturer on the subject of sex education.

SWIFT, EDITH H. *Step by step in sex education.* Price, $2. The Macmillan Company, 1938.

Imaginary conversations between parents and children which begin with simple explanations of anatomy for the child of 2¼ years and gradually inform the growing child of sex, its problems and solutions, finally preparing the adolescent for marriage. Intended to suggest an unemotional approach.

WILE, IRA S. *Sex life of the unmarried adult.* Price, $2.50. The Vanguard Press, 1934.

Written simply and intelligently for the layman by an author who manages to stick to his subject.

THE DOCTOR'S OWN STORY

FEARN, MRS. ANNE (Walter) *My days of strength; an American woman doctor's forty years in China.* Price, $3. Harper & Brothers, 1939.

An autobiography of an American woman physician who went out to China in 1893 to open up the Women's Hospital in Soochow. The account of her forty years as a physician in China is spiced with human interest tales and wit.

HEISER, VICTOR G. *An American doctor's odyssey.* Price, $3.50. W. W. Norton & Co., Inc., 1936.

Personal history of the adventures of an American doctor whose chief work has been in health education and the eradication of disease.

HERTZLER, ARTHUR E. *Horse and buggy doctor.* Price, $2.75. Harper & Brothers, 1938.

Reminiscences, written in semihumorous vein and covering forty years or more of a country doctor's life and experiences.

LONG, FRANCIS A. *A prairie doctor of the eighties; some personal recollections and some early medical and social history of a prairie state.* Price, $2.75. Huse Publishing Company, (Norfolk, Neb.), 1938.

Reminiscences of medical and social progress in Nebraska as seen by a man who began practicing in the eighties. With two chapters on "The Prairie Doctor's Wife" by Maggie E. Long.

MACARTNEY, WILLIAM N. *Fifty years a country doctor.* Price, $3.50. E. P. Dutton & Co., Inc., 1938.

The personal experiences of a country doctor in northern New York state a half mile from the Canadian border. A human document as well as a doctor's record.

McCOMB, EARL V. *Doctor of the North country.* Price, $2. Thomas Y. Crowell Company, 1936.

Reminiscences and anecdotes of a general practioner's life and medical experiences in a small community.

MAJOCCHI, ANDREA. *Life and death; the autobiography of a surgeon.* Tr. by Wallace Brockway. Price, 98 cents. Blue Ribbon Books, Inc., 1939.

The intimate and exciting life story of a great Italian surgeon.

MAJOCCHI, ANDREA. *More of my life.* Tr. by Wallace Brockway. Price, $2.50. Knight Publishing Company, 1938.

Further reminiscences of an Italian surgeon, whose enjoyment of life, and his faith in it, will be even more important than his reputation in endearing his book to his compatriots and many other readers.

MORRIS, ROBERT T. *Fifty years a surgeon.* Price, $2. E. P. Dutton & Co., Inc., 1935.

Autobiography of a New York surgeon, made up largely of anecdotes of his career and his wise, penetrating comments on important aspects of his profession.

MUNTHE, AXEL. *The story of San Michele.* Price, $3.75. E. P. Dutton & Co., Inc., 1931.

Autobiography of a Swedish physician, one of the frankest and most absorbing of recent years. Packed with good stories, with vivid scenes of travel and with portraits of strangely varied characters.

NEWSHOLME, SIR ARTHUR. *Fifty years in public health, a personal narrative with comments, v. 1, the years preceding 1909.* Price, 15s. George Allen & Unwin, Ltd., 1935.

Records his recollections covering the time when he was in general practice and later Medical Officer of Health in Brighton, England.

NEWSHOLME, SIR ARTHUR. *Last thirty years in public health: recollections and reflections on my official and post-official life.* Price, 15s. George Allen & Unwin, Ltd., 1936.

Second instalment of what he calls his "Recollections and Reflections on My Official and Post-Official Life." Has great value and interest not only for those engaged or concerned in health work but also the general reader.

OLIVER, JOHN R. *Foursquare; the story of a fourfold life.* Price, $2.50. The Macmillan Company, 1929.

Physician to the criminal courts of Baltimore; practical psychiatrist; warden of the Alumni Memorial Hall of the University; priest: these are the four squares of John Rathbone Oliver's life.

SAVA, GEORGE. *The healing knife: a surgeon's destiny.* Price, $3. Harcourt, Brace & Co., Inc., 1938.

A departure from the usual medical memoirs which are flooding the market, in that the author led an adventurous life getting his medical education by practice on wounded comrades, studying at night, etc.

YOUNG, FRANCIS B. *Doctor Bradley remembers.* Price, $2.50. Reynal & Hitchcock, Inc., 1938.

The author has drawn on his own experiences as a doctor to create a three-dimensional pen portrait of a doctor's life. After fifty years of service to mankind, Dr. John Bradley looks back at his long rich life, and as his own career takes shape, the novel develops a wide picture of humanity.

GREAT FIGURES IN MEDICINE

COOK, SIR EDWARD T. *Short life of Florence Nightingale.* New Ed. Price, $2.50. The Macmillan Company, 1925.

A delightful portrayal of the pioneer of modern nursing. Abridged from The Life, by Sir Edward Cook with additional matter by Rosalind Nash.

CUSHING, HARVEY W. *Life of Sir William Osler.* Two Vols. Price, $12.50. Oxford University Press, 1925.

Osler's broad interests and the detail with which they are written up make the work almost a history of medical science. The theme is noble, the book is worthy of its subject and should rank as one of the classical biographies.

DAVIS, LOYAL. *J. B. Murphy: Stormy Petrel of surgery.* Price, $3. G. P. Putnam's Sons, 1938.

Dr. Davis has done a good job in presenting the life of one of the most colorful figures in American medicine during its early days. He brings Murphy to life not only in the great moments of his life—in the operating room, perfecting the Murphy button—but also in his intimate moments at home and among his patients.

DREWITT, FREDERIC G. D. *Life of Edward Jenner, naturalist and discoverer of vaccination.* Price, $2. Longmans, Green & Co., 1932.

A popular life of Jenner, who was not only the famous discoverer of vaccination but an accomplished musician, a poet, a surgeon and proficient naturalist as well.

DRINKER, CECIL K. *Not so long ago.* Price, $3.50. Oxford University Press, 1937.

"A chronicle of medicine and doctors in colonial Philadelphia" based on extracts from the diary of a Quaker lady—Elizabeth Drinker—covering the years from 1758 to 1807. As the Drinker family had several children, and passed through various epidemics, the diary contains information on childbirth, care of children, home nursing, etc., as well as on doctors and their practices. The extracts are supplemented with comments by the author based on other research.

FLEXNER, JAMES T. *Doctors on horseback; pioneers of American medicine.* Price, $2.75. Viking Press, Inc., 1937.

Biographic studies of seven American pioneer doctors. Contents: John Morgan, 1735-1789; Benjamin Rush, 1745-1813; Ephraim McDowell, 1771-1830; Daniel Drake, 1785-1852; William Beaumont, 1785-1853; Crawford W. Long, 1815-1878; William T. G. Morton, 1819-1868. Selected bibliographies. Index.

GORGAS, MRS. MARIE D., and HENDRICK, BURTON J. *William Crawford Gorgas; his life and work.* Price, $2.50. Doubleday, Doran & Co., Inc., 1924.

The dramatic story of Gorgas' victory over yellow fever in Panama consumes the greater part of this admirable biography. It is a stirring tribute to his scientific insight, his unselfish character and remarkable administrative ability.

KELLY, HOWARD A. *Walter Reed and yellow fever.* Third Ed. Rev. Price, $2.50. Norman, Remington Company, 1923.

"Records the history of indomitable perseverance, scientific enthusiasm, foresight, forgetfulness of danger, and self-sacrifice."

MacMICHAEL, WILLIAM. *The gold-headed Cane.* Sixth Ed. Price, $3.75; Paul B. Hoeber, Inc., 1932; Price, $6.50. The Macmillan Company, 1930.

The cane had belonged to several eminent medical practitioners and had accordingly seen much of the profession, had been about and had many tales to tell.

MEGROZ, RODOLPHE L. *Ronald Ross, discoverer and creator.* Price, 10s 6d. George Allen & Unwin, Ltd., 1931.

Ross's great contribution to the well-being of mankind was his demonstration that the Anopheles mosquito is the carrier of malaria. One part of the book is devoted to a history of his scientific work, the other to his literary accomplishments.

MORTON, ROSALIE S. *A woman surgeon; the life and work of Rosalie Slaughter Morton.* Price, $3. Frederick A. Stokes Company, 1937.

A conventional Southern girlhood and a break with tradition when a girl decided to follow the men of her family in medicine, preceded Dr. Morton's training here and abroad, and her success as a surgeon. War service, the organization of the American woman's hospitals, the education of Serbian students in America and other humanitarian causes have been part of her active career, and she is now devoting her efforts to arthritis research.

REID, EDITH G. *The great physician; a short life of Sir William Osler.* New Ed. Price, $1.50. Oxford University Press, 1931.

"Not another man, nor yet a different doctor, but the same giant of medical history, the dear physician of all continents, is made nearer, clearer, easier to picture and, according to our capacities, to worship in this biography by Edith Gittings Reid."

REID, EDITH G. *Life and convictions of William Sydney Thayer, physician.* Price, $2.50. Oxford University Press, 1936.

A biography of a late professor of medicine in Johns Hopkins University who was in Russia during the war and revolution as a member of the Red Cross Mission.

WINSLOW, CHARLES E. A. *Life of Hermann M. Biggs, physician and statesman of the public health.* Price, $5. Lea & Febiger, 1929.

A general review of the life and work of a great statesman of the public health, which epitomizes the modern public health movement.

MEDICINE'S CONTRIBUTION TO HUMAN PROGRESS

ASHFORD, BAILEY K. *A soldier in science; autobiography.* Price, $3.50. William Morrow & Co., Inc., 1934.

Autobiography of a physician who has spent his life in the exploration of tropical diseases.

BROWN, ESTHER L. *Physicians and medical care.* Price, 75 cents. Russell Sage Foundation, 1937.

A survey of present conditions in medical education, of the distribution of physicians, their incomes, the demand for their services and of national associations with a study of new forms of medical service and possible methods for providing adequate care for all people.

CLENDENING, LOGAN. *Behind the doctor.* Price, $5. Alfred A. Knopf, Inc., 1933. Price, $1.89. Garden City Publishing Company, 1933.

An account of the history of medicine, of the men and women who have made medical discoveries, the circumstances in which they were made and their influence on civilization and thought—told in a way which attempts to be understandable to laymen.

DE KRUIF, PAUL H. *Men against death.* Price, $1.49. Harcourt, Brace & Co., Inc., 1932.

An accurate and vivid account of some of the latest skirmishes and conquests in the long and constant battle against disease.

DE KRUIF, PAUL H. *Microbe hunters.* Price, $3.50. Harcourt, Brace & Co., Inc., 1926.

A proud record of the struggles and achievements of pioneer bacteriologists: Leeuwenhoek, Pasteur, Koch, Ehrlich, Walter Reed and others.

DOYLE, MRS. HELEN M. *A child went forth; autobiography.* Price, $3. Gotham House, Inc., 1934.

Reminiscences of the author's life from the seventies to the present. (One of the first women on the Pacific coast to take a degree in medicine.) Written with a wholesome simplicity and humaneness that is heart warming.

FISHBEIN, MORRIS. *Frontiers of medicine.* (Century of Progress series). Price, 50 cents. Williams & Wilkins Company, 1933.

A simply written brief history of medicine from the days when it was largely a system of magic and mysticism to the highly specialized profession of today.

GALDSTON, IAGO. *Medicine and mankind.* Price, $2. D. Appleton-Century Company, Inc., 1936.

Lectures delivered at the New York Academy of medicine. Their purpose is "to admit the public behind the scenes and to reveal to them the influences which direct the working of the medical mind."

HAGGARD, HOWARD W. *Devils, drugs and doctors.* Price, $3.50. Harper & Brothers, 1929.

An absorbing story of the development of medicine from the magic and alchemy of old to the threshold of scientific discovery.

HAGGARD, HOWARD W. *The doctor in history.* Price, $3.75. Yale University Press, 1934.

Written primarily for his children in order that through the history of health, seen in the lives of the great doctors, they may understand the social logic of modern medicine, it offers the public an exceptionally well written and sometimes amusing survey of disease and its conquest even before the time of man.

HAGGARD, HOWARD W. *The lame, the halt and the blind.* Price, 98 cents. Blue Ribbon Books, Inc., 1935.

Vivid account of the ways in which medical and sanitary progress has conquered some of the superstitions and scourges of mankind. A companion volume to "Devils, Drugs and Doctors."

HAGGARD, HOWARD W. *Mystery, magic and medicine.* Price, $1. Doubleday, Doran & Co., Inc., 1933.

A brief and rapid but dependable and illuminating review of medicine as it developed out of the earlier stages of mystery and magic.

LÖBEL, JOSEF. *Medicine; a voyage of discovery.* Tr. from the German by L. Marie Sieveking and Ian F. D. Morrow. Price, $3. Farrar & Rinehart, Inc., 1934.

This survey of modern medicine devotes separate chapters to the various branches of medical art and knowledge; under each heading it gives briefly a history of the subject and a nontechnical resumé of present knowledge. For the intelligent layman.

MAJOR, RALPH H. *Disease and destiny.* Price, $3.50. D. Appleton-Century Company, Inc., 1936.

A survey of the dominant role disease has played in the history of the human race. Written in popular style for the general reader.

MEAD, KATE C. H. *A history of women in medicine; from the earliest times to the beginning of the nineteenth century.* Two Vols. Price, $6. Haddam Press, (Middletown, Conn.), 1938.

Detailed history of women in medicine, century by century, from the days of Queen Shubad of Ur, 3500 B.C., to the beginning of the nineteenth century.

NEW YORK ACADEMY OF MEDICINE. *Milestones in medicine.* Laity lectures of the New York Academy of Medicine; introduction by James Alexander Miller. Price, $2. D. Appleton-Century Company, Inc., 1938.

Seven lectures on a variety of developments in medicine for the layman.

NEWMAN, SIR GEORGE. *The rise of preventive medicine.* Price, $3.50. Oxford University Press, 1932.

Beginning with folklore, magic, custom and religion, the author carries us through the development of preventive medicine, which, of course, includes much of general medicine, physiology and other cognate sciences down to the present, concluding with a chapter on the collective and community organization of preventive medicine.

NEWSHOLME, SIR ARTHUR. *Evolution of preventive medicine.* Price, $3. Williams & Wilkins Company, 1927.

The story of preventive medicine from the dawn of history to the era of bacteriology. Told in a clear and flowing style.

NEWSHOLME, SIR ARTHUR. *The story of modern preventive medicine; being a continuation of the evolution of preventive medicine.* Price, $4. Williams & Wilkins Company, 1929.

"A compact review, serving to correlate several steps and adventures in discovery and to arrange our present knowledge into a more or less complete pattern."

OLIVER, WADE W. *Stalkers of pestilence.* Price, $3. Paul B. Hoeber, Inc., 1930.

The historical development of man's ideas of the nature of infectious diseases. Interesting sketches of some great physicians and of some arrant quacks of the past.

PACKARD, FRANCIS R. *History of medicine in the United States.* Two Vols. Price, $12. Paul B. Hoeber, Inc., 1931.

In some of its areas the available material is too slight to make anything properly describable as connected history; but wherever diligence could unearth the story, the author tells it.

RIESMAN, DAVID. *Medicine in modern society.* Price, $2.50. Princeton University Press, 1938.

An account for the layman of the development and outstanding achievements of modern medicine, which explains metabolism, allergy, vitamins, hormones and other factors that are interesting and agitating both to the medical profession and the laity today.

RIESMAN, DAVID. *The story of medicine in the middle ages.* Price, $5. Paul B. Hoeber, Inc., 1935.

This is a many sided volume, its interests touching more or less closely numerous phases of the life of the middle ages but always keeping in the center of the picture its theme of the status and development of medicine.

TOBEY, JAMES A. *Riders of the plagues.* Price, $3.50. Charles Scribner's Sons, 1930.

Traces the development of sanitation and sketches briefly the life and work of Pasteur, Lister, Florence Nightingale, Gorgas, Trudeau and others to whom we owe our present and commonplace rules of community health and disease prevention.

WALKER, MRS. M. E. M. *Pioneers of public health.* Price, $4.50. The Macmillan Company, 1930.

Biographies of twenty-one scientists whose names are inscribed on the walls of the London school of hygiene and tropical medicine. The volume begins with Sydenham, the "English Hippocrates and includes sketches of Chadwick, Shattuck, Lister, Manson, Laveran, Reed, Biggs, Gorgas, and Leishman."

ZINSSER, HANS. *Rats, lice and history.* Price, 98 cents. Blue Ribbon Books, 1937.

This is the biography of a disease: typhus. The opening chapters discuss the relationship between science and art, the history and changing nature of infectious diseases and epidemics in general. The concluding chapters tell of the birth, growth and spread of typhus and its prevalence today. It points out how epidemics, especially typhus, have affected civilizations.

NOTICE

The books that are mentioned in this list may not be purchased through HYGEIA or the American Medical Association, unless it is specifically stated that the book is published by this organization. Otherwise, your local bookseller can secure the book for you. In case of pamphlets printed by the federal government, these may be secured by writing directly to the respective department or bureau in Washington, D. C. No further address is necessary for the government publications.

ADJUSTMENTS IN MARRIAGE

(Continued from page 976)

They should give the opportunity to the young couple to settle their differences alone. However, it is in just such cases of abnormal parental attachment that the parents themselves are overprotective and do not allow their children to emancipate themselves.

It is often said that it is "the little things in life" that make life worth living, and it is never more truly said than of marriage. Too often married people seem to take each other for granted, as it were. Each expects favors of the other with no thought of the ordinary courtesies of everyday social life. A little show of appreciation here and a "Thank you" there will oil the machinery of everyday humdrum and make life run more smoothly. The husband should tell her how he enjoys her meals and how well she looks in her new strapless, chartreuse evening gown. Also, he should not forget anniversaries and birthdays, and if he will surprise her once in a while with some flowers, he will never have to pay her alimony! The wife has her part to play in the game too, for 'tis said that men are the vainer sex. He should be complimented on how well he does his work, how much better he dances than Mrs. Smith's husband, and when they have company in, she can brag about his cleverness in fixing the radio. All this may sound trivial, but actually it is far from it.

The other individual's unpleasant personality traits must be recognized as such and tolerated. Remember that no one is perfect, and before you start throwing stones and criticizing, you better turn around and take a good look at yourself. Each should take stock of his own traits and try to get the undesirable ones under control. For instance, a sensitive person ought to realize that he is so; he ought to remember that the supposed slight was probably unintentional, and it is his own sensitive nature that is at fault. Each will have to put up with the other's faults of this sort and not forget that the person is often just that way and to some extent cannot help himself.

Thoughtfulness for others is a mark of the cultured. When the husband comes home from work, it is likely that he is tired, and irritability is commonly found with fatigue. If he is grumpy, grouchy and critical, his wife will do well to delay any discussion of unpleasant matters, and if she understands why he is in such a mood, it is easier for her to control her own temper. Also, he must be aware of the fact that she has probably been doing housework all day and may be tired herself. Most arguments between husband and wife are started by some trifles, but the fight often assumes large proportions. After the armistice has been signed and hostilities cease, it is often not clear to either party just what started the war. The prevention of such differences is the prevention of doing battle over a trifle. Some persons solve this problem by having a previous agreement, the assumption being that the first person to become angry will soon be calm if the other does not give a sharp answer in return. Also, the angry one will soon be sorry and will apologize for the outburst. Such a plan works sometimes and is worthy of a trial.

Sexual Maladjustments

As is well known, sexual difficulties are one of the most common causes of unhappiness in married life, and many divorces are obtained because of these difficulties. However, the real reason for divorce is often disguised under the cloak of such grounds as desertion, neglect to provide and cruelty. The prevalence of sexual maladjustments in marriage is due primarily to a wrong attitude toward sex, to inadequate sex education and to ignorance concerning sex. The last two are merely results of the prudish attitude toward the subject. The whole matter needs to be examined frankly, and there ought to be an end to the secretive whispering which is carried on in such a shame-faced manner. The child is given the impression that sex is vulgar, filthy and obscene, and he grows up with this impression deeply engraved in his being. He is taught that it is something naughty that must not be talked about; and when his questions are met with embarrassment and are not answered, naturally he senses the tabu and mystery that envelop the subject. As a result of such rearing, married persons of both sexes often have the feeling that sexual relations are essentially obscene and beastly. Many know they should not have that attitude, and intellectually they may tell you the opposite; but still they often feel that there is something intrinsically wrong with it.

Sexual difficulties are more common in women than in men. This is due, in part at least, to the traditional attitude that women must not have sexual feelings. Also, women suffer from nervous disorders caused by sexual maladjustment much more frequently than men. This results because women are called on more to suppress their sexual feelings, and excessive suppression of natural desires is a frequent cause of nervousness. The old idea that women are less interested than men in the expression of the sexual impulse is outmoded, but we still see women from time to time who never knew that they are supposed to obtain any satisfaction in the relationship.

Whether or not a woman will make a good sexual adjustment in marriage depends in a large part on her training when a girl. Mothers are not always the best teachers, for they frequently have wrong attitudes. What they tell their daughters often produces a reaction of fear and disgust, which results in a denial of all sexual feelings. Consequently, excessive suppression occurs; the natural feelings are inhibited, and the result only becomes manifest later in life as a maladjustment in marriage. Before marriage, the physical side of sex should be discussed with a physician in a sane, frank, detailed manner in order that all sense of guilt may be destroyed. Any indecent ideas about the subject must be corrected, and it should be approached as something with spiritual value and not as something base and degrading.

Actual statistical studies show that a woman has a better chance of being sexually adjusted in marriage if she was given a sane and sensible view of sex when a girl. Such early training makes it possible for her to regard the matter as being perfectly natural, and she is not handicapped with the fears and

ideas of disgust which are so common. Also, statistics again show that sex education obtained just before marriage increases the likelihood of a normal sex life. In this way, any mistaken attitudes and ideas can be corrected, and definite advice can be received which will make it possible to prevent some of the causes of unhappiness.

What has been said about women concerning their early attitude toward sex and their later premarital sex education can also, to a large extent, be applied to men. Boys, too, are given the idea that sex is something that is not quite acceptable; and although such early attitudes cause trouble at times in later life, such trouble is less frequent than it is in women. However, there is little difference between the sexes in the matter of need for premarital education. Women often recognize their own ignorance of the matter and frequently seek advice; but the men are more likely to think they already know everything, and so their ignorance is liable to be more dangerous. The average man is not as wise as he thinks, and at times it is his lack of knowledge that prevents his wife from having a normal response. In this regard the man is frequently thoughtless and selfish, although he does not mean to be. His thoughtless and selfish actions and behavior are the result of ignorance and not of conscious, intentional disregard for his partner. He must learn that his wife's nervous system does not react just in the same way his does. He must learn that her sexual feelings are more diffuse than his, and he ought to know that her reactions are slower to develop. It is because of such ignorance and awkwardness in the husband that the wife is occasionally so disillusioned that the whole relationship may become unsatisfactory.

Disagreement concerning the frequency of sexual relations causes discord in some marriages. The frequence of sexual desire varies greatly in different persons, and it also varies in the same individual at different times. Normal limits range widely, and neither extreme is really abnormal. If man and wife vary a great deal in this regard, compromise is the best solution, for it is unwise for either partner to insist on his or her own way.

Frigidity or lack of complete sexual response in women is extraordinarily common. It has been estimated that about one third of all married women suffer in this way. As we have seen, the causes are early development of an undesirable attitude, lack of adequate sex education of the woman and ignorance on the part of the husband. Due to early training, the woman has suppressed her normal and natural sexual feelings for so long that she may have difficulty in freeing herself from these long-standing inhibitions. Many such women enjoy the preliminary love making but regard the physical part as being a sort of necessary evil. If she has a genuine desire to rid herself of these inhibitions and is willing to spend time and effort, she may be able with the aid of psychologic treatment to make a normal sexual adjustment.

Sexual maladjustment in marriage can show itself in several forms. The individual may be aware that his or her sex life is not adequate or satisfactory, and this may give rise to doubts about the love for the partner. Also, because of sexual incompatibility, one partner may become doubtful concerning the fidelity of the other, groundless suspicions may develop, and the original unhappiness may become so great as to be almost unbearable. Instead of this reaction, lack of sexual satisfaction may cause considerable irritability, a feeling of exhaustion and a general feeling of dissatisfaction. Usually the cause of these symptoms is not realized, and consequently the problem is not attacked properly. The wife becomes irritable with her husband and children; small things bother her; she becomes dissatisfied with everything and is generally unhappy. As a result of her condition, she argues frequently with her husband; their general emotional relationship becomes strained; and all this results in an even more unsatisfactory sexual adjustment. Thus, a vicious circle is set up. It is important to remember that frequently neither partner knows that sex is at the bottom of the whole situation.

A third way sexual maladjustment manifests itself is by a definite nervous disease. A man may come to a doctor's office complaining of pressing headaches, fatigue, irritability, vague pains in the back, sensitiveness to noises and loss of interest. Such a constellation of symptoms does not definitely suggest any physical disease, and examination fails to reveal any abnormalities. Inquiry into his sex life usually reveals difficulties; however, it is often difficult to convince him that they have anything to do with his trouble. Nevertheless, correction of these difficulties is the treatment indicated for his sickness.

The problem of birth control deserves a comment here. Frequently a couple may decide that more children would be undesirable for such reasons as poor health of the wife or poor economic conditions. If they have no objections to birth control based on religious or other grounds and if a good method is used, the practice will have no ill effects. Some persons whose religious beliefs are opposed to birth control carry out the practice anyway, and an emotional conflict develops. A woman may have tuberculosis or heart disease, for instance, and she may be told by her physician that pregnancy would further endanger her health, but her religion forbids the practice of birth control. Thus, she may follow the dictates of her religion and be in constant fear of pregnancy. Such a fear often inhibits her formerly normal sexual response, and she may develop some of the difficulties just described. On the other hand, she may take measures to prevent pregnancy; but since this is against her religion, it will cause mental conflict. In such instances the couple must weigh the purely medical reasons against their own religious tenets and come to their decision alone. This matter is their own personal affair, and it is not the physician's intention to thrust his own beliefs on the patient.

A better understanding by the husband of the wife's emotional reactions during the menstrual period would prevent some unhappiness in marriage. During this time a little over half of all women show definite irritability, nervousness, shortness of temper and emotional instability. If the husband would realize that during this time she is not really herself, and if he would discount his natural emotional reactions to her behavior, many

(Continued on page 1043)

Sleeplessness and Night Terrors

***Bad management causes many pernicious habits to be formed by the growing infant, and these may be some of the results, says* WILLIAM I. FISHBEIN**

TRUE insomnia, or sleeplessness, is not frequent in children. Sleep is largely a matter of habit, and the habit of lying awake may be acquired in early infancy owing to bad management. A child may be unduly excited before being put to bed, or he may be fed a number of times during the night. Indigestion or pain from any source interferes with sleep, and the habit of awakening at night, once begun in early childhood, can continue almost indefinitely, even if the cause which originally produced it has been removed.

The prevention of sleeplessness consists in formation of proper habits beginning as early as possible in infancy. It is not unusual for bad habits of sleep to be started during the first few weeks of life, when parents fail to observe the principles of good management in regard to regular times for feeding and sleeping.

Perhaps the most frequent mistake of all is to continue giving night feedings after the child no longer has need for them. It is true that certain infants get along better when they are fed at night for the first week or two, but, after this time, the infant should be so comfortable at night that he can sleep continuously from 10 p. m. to 6 a. m. During the day he should be given enough food so that he does not become hungry in the night.

If the sleeplessness has already developed, the child's diet should be carefully regulated by the physician. His sleeping conditions should be investigated. His bed should be as comfortable as possible and sufficient ventilation provided. Any source of pain or irritation should be detected and removed. Excitement before putting the child to bed is to be strictly avoided. If the child wakens at night and the mother has already assured herself that there is nothing wrong with him, he should be left alone to cry it out. He may cry for several hours the first night; but within a week or two, the bad habit will be broken. If, on the other hand, the mother relents and goes to the infant, it only will intensify the habit and make it more difficult to overcome.

As a general rule, physicians do not advise the use of sedative drugs, but occasionally their employment for a few days may serve to interrupt a vicious circle. Lack of sleep produces increased irritability, which in turn will interfere with sleep. The use of drugs may break this chain of circumstances.

In certain young children, going to bed is resisted. A child would rather stay up and continue his play. Certain negativistic children create a disturbance at bedtime only because of the effect they know it has on their parents. The cure in such instances is, of course, completely ignoring the disturbance, putting the child into his bed and leaving him alone. Firmness is necessary with no lapses until the condition is well under control.

True insomnia in older children may develop from the same cause as in adults, particularly the fear of being unable to go to sleep. This fear may be intensified and the entire condition magnified in the child's mind because the entire household is upset. He becomes aware of consultation between the parents concerning his failure to

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sleep. In such cases, sedatives, combined with a change in the child's management, may be necessary. Sleeping conditions should be made as comfortable as possible. The youngster must be encouraged and his failure to sleep apparently ignored.

NIGHT TERRORS

In certain youngsters under 4 years of age, a condition sometimes associated with sleep, known as night terrors, may develop. Night terrors are similar to nightmares which occur in later childhood. Their exact cause is not known; but they seem to develop particularly in children who are nervous, and hence treatment of this underlying nervousness, along lines previously discussed, is essential. Excitement before bedtime, indigestion, pain and discomfort of any sort may be contributing causes.

Only foods which are easily digested should be given at the evening meal to children afflicted with this disorder. Sedative drugs may aid.

In so-called night terrors, the child, while asleep, cries out, may stand up in bed and run about. In the morning, he has no knowledge of what has occurred. He is confused and agitated during the attacks, and it takes some moments to arouse him to consciousness. The attacks occur early in the night, and it is unusual for them to occur more than once during the night.

With removal of the cause, avoidance of excitement, the establishment of a restful routine existence and the proper employment of sedatives by the physician, night terrors are frequently relieved.

QUESTIONS from MOTHERS

The "Milk Crust"

To the Editor:—What is the meaning of a "milk crust" on the top of my baby's head? What causes it? How can it be cured?

S. Q. A., Illinois.

Answer.—A "milk crust," also known as a "cradle cap" and medically as seborrhea of the scalp, represents overactivity of those glands of the skin of the scalp that produce sebum, the natural oil of the skin. When the sebum is permitted to accumulate, it becomes mixed with the outer cells of the skin which normally are thrown off, and it tends also to gather dust and similar material from the surroundings. This mixture dries and forms soft greasy scales or crusts. In most instances, when the duration has been relatively short, the underlying skin is normal; if of longer duration, the skin may become inflamed. Babies with eczema are more likely to develop a milk crust than those without eczema, but in most instances milk crust depends on failure to keep the oily secretions washed away. Many mothers are afraid to wash around the fontanel or "soft spot" of the baby's head.

Once the crust has formed, it may be removed by first softening it with oily preparations and then washing with soap and water. The oil may be mineral oil, olive oil or some other preparation. It is usually applied at night and washed off the next morning. In the beginning it may be necessary to repeat this treatment for several days. The removal of the crust should be gentle and preferably not with anything as hard as a comb. If the crust continues to return despite simple care of this kind, a physician should be consulted.

Water for Baby

To the Editor:—Can bottled distilled water be used safely for an infant to avoid a change in water when traveling?

M. R., New York.

Answer.—Yes, if it is boiled.

Room Temperature for Baby

To the Editor:—What is the best temperature for the room in which my baby is bathed?

K. J. M., Wyoming.

Answer.—The optimum temperature of the room should be between 75 and 80 F. The temperature of the water in which he is bathed should be around 100 F.

If you have a question about the health of your baby, write to "Questions from Mothers," HYGEIA, enclosing a three-cent stamp. Your questions are submitted to recognized authorities. Diagnoses in individual cases are not attempted, nor is treatmeat prescribed. Anonymous letters are ignored.

ADJUSTMENTS IN MARRIAGE (Continued from page 1040)

disagreeable situations could be prevented.

Menopause, or the change of life, is another chapter in a woman's life which usually occurs at about 45 or 50 years of age but may appear a few years earlier or later than this. It is frequently accompanied by nervous symptoms and some mental depression, but its importance has been exaggerated. By tradition, women expect trouble at this time of life, and any disturbance of physical or mental health occurring between the ages of 40 and 60 years is blamed "on the change." It is well known that what one is looking hard for, one will often find, and such an attitude causes an unnecessary amount of concern and anxious expectation. The woman realizes, often for the first time, that she is no longer young, and if her husband is still robust physically and sexually, she may doubt her ability to attract him. Thoughts occur to her about her husband's possible infidelity. She grows suspicious, and for the first time in her life she may become jealous. Ordinarily at this time there is no sudden loss of sexual drive, as is so commonly believed; but there is a typically slow, gradual diminution of desire.

However, in a certain percentage of women the change of life is accompanied by a definite increase and strengthening of sexual impulse, and this is often a cause of nervous disturbance. Because of her age she may believe that such feelings are unnatural, and because she cannot understand it, she may commence to worry about herself and think of the possibility of some severe mental disease. Unfortunately her husband may agree with her, in view of her change in behavior. Increase of sex desire at this stage of life is perfectly normal and natural, and if both partners realize this, their attitude will be such as to ease all fears of mental disease. Regardless of whether the change of life is accompanied by diminution or enhancement of the sexual impulse, it does not in any way mean the end of the woman's sex life.

In addition to the psychic changes that occur, definite physical or physiologic disturbances of varied intensity appear. Headaches, nervousness, easy fatigue, hot flashes, emotional instability and other symptoms may be present, and they are bothersome. But some women go through this period with no difficulty whatever. For many, the years following the menopause are the most satisfactory years in their lives, and for the first time they have a chance to develop their own interests. Since their children are usually grown up, they have more time for outside activities. The woman is able to retire from the competitive rush and bustle of modern society and live her life in serene and secure tranquillity.

The two most important causes of unhappiness in marriage, namely emotional and personality difficulties and disturbances of sexual adjustment, have been considered. Most authorities seem to think sex difficulties the most important of all, but one author recently made the following statement: "Personality and temperament are more important in marriage than sex, money, and jealousy," and I am inclined to agree with him. Which to put first is of no great moment, for I believe that they are both merely different aspects of the same problem, and a disturbance in one field often causes difficulty in the other sphere. If a person is not generally well adjusted emotionally, that person is often not well adjusted sexually, and sexual difficulties often put a strain on the personal relationships.

[NOTE: Dr. McDermott will consider "Money and Children" and "Divorce" in the concluding instalment of this article next month.]

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WONDER STORIES OF THE HUMAN MACHINE

(Continued from page 1006)

if strains are not suddenly thrown on the working parts of the body. As we should start an auto slowly, when it is cold, to allow a proper circulation of oil, so a body started slowly provides for a proper circulation of all of the body fluids. While youth can "get away" with nearly anything in exercise, it is highly important that in maturity a slower speed be taken at the outset, for it results in much greater and and prolonged efficiency, with much less probability of damage to the machine.

Unlike the automobile, the muscles actually keep on improving with use for many years. Not only do they acquire skill, but their size actually increases, and they become much stronger and more enduring. Up to a certain point this is a valuable property. We all admire the big-muscled athlete and often sincerely envy him. The over-development of muscle, however, has its drawbacks. It requires a large and almost constant amount of exercise to maintain it. If one's occupation requires this exercise, such muscles maintain themselves normally. But if they are developed for a particular purpose, which is usually only seasonal, there is likely to be considerable disturbance in the body if the exercise is discontinued suddenly, as it frequently is, unless other and rather drastic bodily adjustments are also made. Muscles not used waste away or "degenerate," and the body must dispose of the excess tissue. If this is done gradually, there is no disturbance. But when exercise suddenly ceases and the accustomed eating continues, as it frequently does, there is likely to be a large deposit of fat and more or less of an upset in many of the body functions. It is like an emergency application of hydraulic brakes to a rapidly moving car. It jolts the whole machine, wears out large pieces of tires and may skid it into the ditch. Brakes of all sorts should be gradually applied.

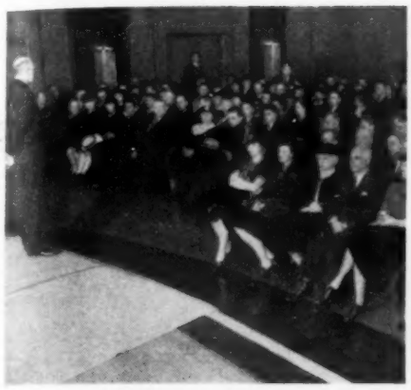
Both the voluntary and involuntary systems of muscles are marvels of strength and durability. But abuse will cause them to rebel, and we get lame, sore and stiff and have "charley horses" as a result of misuse. These things are as a rule unnecessary, if we are reasonably thoughtful in muscular use. Sometimes muscle cramps develop when apparently the muscles have not been overused. Another cause has been discovered for this condition. If one is sweating excessively and does not replace the fluids and salt that is thrown out by the sweating, he may develop severe muscle cramps. Hence, men are now generally required to take a certain amount of salt with the water used when they are working under conditions of prolonged high heat. This has largely solved the problem. Sudden and severe cold may also cause muscle cramps and has resulted in the drowning of many expert swimmers.

Our running gear is a wonder part of a wonderful machine. It deserves our best care.

Inducing Discontinuance of Insulin May Be Manslaughter

"The most fundamental factor in every consideration of medical service is the scientific qualification of those who render the service," *The Journal* of the American Medical Association declares in an editorial which states that: "A person who induces a diabetic patient to discontinue the use of insulin, when the use of that drug is necessary to preserve his life, is guilty of manslaughter, if the patient dies as the result of such action. In principle, it is equivalent to withholding insulin from a diabetic patient by physical force."

Commenting on a recent decision of the Supreme Court of the state of Washington which branded as a killer a so-called drugless healer whose negligent treatment of a person with diabetes caused death, *The Journal* says that: "Intelligent public opinion everywhere will approve of the decision. The court said that such conduct by this so-called drugless healer constituted manslaughter. The healer not only assured the patient that insulin was absolutely unnecessary for his recovery but induced him to discontinue a diet prescribed by a reputable physician, limiting the use of carbohydrates."



An audience in the NBC studios.

The show producer and studio engineer.

Main control room. Note networks on map.

MEDICINE IN THE NEWS

The value of good health and how to keep it will be the message brought to the nation's thousands of schoolrooms and homes this fall and winter by the American Medical Association through its new weekly program, "Medicine in the News." It will be broadcast over the Blue network of the National Broadcasting Company beginning Thursday, November 2, at 4:30 p. m. Eastern standard time.

To the majority of listeners, reception of this program will be a matter-of-fact affair. Some listeners may have a notion of the work entailed in production of the broadcast—rehearsals, writing and other "production" phases of radio broadcasting, but few have any knowledge of how the sounds that issue from their loudspeakers found their way there from the distant studio.

There is an interesting story behind these technical details. The work of the executives, actors, writers, speakers and directors who collaborate on the American Medical Association program ends as the sound waves produced in the studio are transformed by the delicate microphone into electrical waves. The rest is up to the engineers. They route the program in the form of electrical waves through thousands of miles of telephone wire circuits and still more thousands of miles of the ether so that the program reaches the loud speakers clear and undistorted and in perfect balance.

The heart of the network broadcasting of the American Medical Association show is the main NBC control room in Chicago, centrally located in the studios, where the control engineer opens circuits to the various studios at scheduled times.

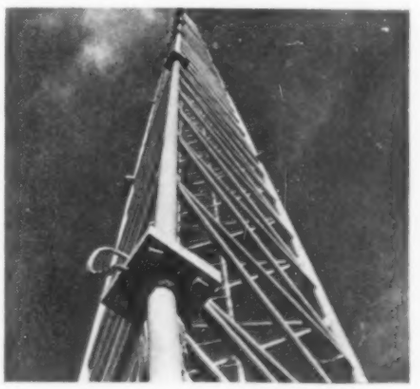
The studio engineer, seated in the smaller individual control room which adjoins each studio, must keep the program at a satisfactory "level" or volume and see that the correct microphones are connected at the correct times and properly balanced. He listens to the program through a loudspeaker in the control room, hearing it just as it sounds to the radio listener.

From the studio, the program is carried by wire to the main control room, where the distribution process begins. It is sent by wire to the transmitter and broadcasting tower of WENR, the local station on which the program is heard in the Chicago area, and it is simultaneously "fed" from the main control room over special telephone lines to other cities throughout the country.

Complicated though the operation may sound, the transmission from the studio to the radio receiving set is accomplished in approximately the time of one heart beat. It is at this speed that the American Medical Association program is carried from a single studio in Chicago into the classrooms and homes of the nation.

Sound comes by wire to this transmitter.

Giant tubes amplify and regulate sound.



Antenna which sends sound into the air.

THANKSGIVING

and the Health Program

By J. MACE ANDRESS

THE shortening of the days, the frosty nights, the husking of corn and the gathering of golden pumpkins foretell the coming of Thanksgiving. There will be a half week of vacation with the usual holiday festivities. Teachers will plan to celebrate the event in their classrooms. There will be special programs and activities to which parents will be invited. On Thanksgiving day members of families will come together from far and near for the famous dinner.

At this time the progressive teacher, always alert when there is a chance to inculcate health teaching, will be on the watch. This does not mean that health as such will be allowed to usurp the school program. Today there is less and less emphasis placed on health apart from other school activities. Such instruction is being integrated with the regular school program. Practically every school subject and activity may be linked with Thanksgiving and health in a natural way.

First, there is the historic approach. Boys and girls in their history classes may relive the days preceding the first Thanksgiving and the historic day itself. Such a plan naturally lends itself to a consideration of health, for this was foremost among the problems of these early pioneers. They landed on a bleak cape in December with little knowledge of the country or the dangers that confronted them. They were exposed to the inclemencies of a severe New England winter. The barren shore offered almost nothing in the way of fresh food. Medical knowledge and reliable hygiene were almost nonexistent. Little wonder that they took sick and died. Of the hundred Pilgrims who landed from the Mayflower in December, only fifty were alive in March. They showed remarkable courage in remaining and facing their problems. The culmination of their success came after an abundant harvest, which they celebrated by a feast to which their friends the Indians were invited. Each year they feasted, until it became a holiday not only in Massachusetts but throughout the land. The historic approach lends itself to all sorts of questions, such as: What did the Pilgrims know about the cause and prevention of disease? Did they have any doctors? Were there any anesthetics, narcotics, antitoxins, vaccines, serums or hospitals? How did they cook their food? Were there potatoes, tomatoes, spinach, string beans, cauliflower and eggplant? The early records show that the colonists had scurvy. What kind of disease was this, and what was its cause? In the upper grades the civic spirit of the day might be promoted by reading the Thanksgiving proclamation of the governor of the state or the President of the United States.

Keystone View Company

Compare the foods on the first Thanksgiving table with those of today's festive board.

In the geography classes a comparison might be made between the foods on the first Thanksgiving table and the modern festive table today. Maps may be made showing the sources of the various foods brought from different parts of the United States and the world. Such lessons would show how superior our diet is today to what it was 300 years ago.

In the work in English the teacher finds vital material both in English and health. Stories and plays about health and Thanksgiving may be written. Often they may be presented by the children the day before the vacation starts.

Drawing and painting may be enlisted to advantage. The children's stories may be illustrated to show health activities.

If there are periods scheduled for hygiene they may be used to talk about how to enjoy the Thanksgiving Day and be healthy. Thus the health program may profit from the interest and enthusiasm of Thanksgiving with no loss to the regular curriculum. Children may become more intelligent about a great American holiday and more skilful in the art of safe and healthy living.

Ewing Galloway

Nurses, family doctors, specialists were consulted.

How to Plan a Health Play

By HELEN M. SMITH and EFFIE G. BATHURST

Putting creative activities at work in the interest of health education is one of the most valuable discoveries or inventions in health education. The authors of this practical article show how these creative tendencies in children may be captured and utilized in the preparation of a health play. Miss Smith is an instructor in junior high school social studies, Santa Barbara, Calif., and Miss Bathurst is a research associate at Teachers College, Columbia University.

WHAT kind of programs can children give in a study of health? What activities should be included? How much information can be used? Among the children in the 8A experimental group, Santa Barbara, Calif., whom we have been following in this series of articles, there was no shortage of ideas. The problem was to select the idea that would result in a program which would be interesting for the boys and girls to build and at the same time give the parents a notion of the value of the study. "It's got to show what we learned," was the general feeling.

The class seemed uninterested in discussions, readings and speeches.

although they had used these effectively in other programs.

"We want something 'different,'" . . . "a play" . . . "dances" . . . "games" . . . "stunts" . . . "something that suits a study of health" were some of the comments.

Most of the class wanted a play. But there were difficulties in this.

"A play needs to be exciting—have a story—and if we have a story, we won't have time to tell all the things we have learned."

"And if we *don't* have a story, we'd just have a queer kind of lecture."

"That would be no fun at all."

"If we can't have some fun planning it, the program's no go for me."

"You might have a series of conversations," suggested Miss Smith. "You could have scenes and interesting characters and something of a story. But you would not need to work for excitement, and your plot could be extremely simple. If those of you who are looking for fun are clever, you can put some humor into the speeches. That should provide fun enough on a subject you have been studying so seriously."

"Would we have just questions and answers?"

"She said we could have characters. . . . Well, characters could more than just answer questions; they could act, couldn't they?"

"Of course. One of us could go to the clinic . . . I could go . . . I did once."

"At a clinic they tell you how to take better care of your health . . . how to improve it. . . ."

"We could call our program 'Improve Your Health.'"

"'Guard Your Health' would be better."

"The one to go to the clinic could be sick. She could be a girl. . . ."

"To have her doing poor school work might give you a chance to work up interest," said the teacher. "There'd be suspense in searching for the cause of her unsatisfactory work. You'd need several scenes for variety."

A plan for the program emerged from a very interesting discussion. "Ann," a fictitious junior high school girl doing unsatisfactory class work, would be taken to the Santa Barbara clinic to consult her family doctor, who would send her to various specialists for examination. Then she would return to the clinic to receive advice regarding her health.

"The girl who goes to the clinic should be examined by several doctors, so we can tell as much as possible of what we learned."

"Somebody could take an x-ray picture of her so we can use what we learned about the x-ray."

"Let the family doctor examine her first. That's natural."

"There should be a nurse to tell how to take care of the skin. Girls of Ann's age need to know this."

"We should have a dentist, because Arnold sure knows a lot about teeth, and he would be such a good one. And maybe she has crooked teeth."

The scenes then were planned as follows:

Scene I. Office of family doctor

Scene II. Office of heart and lung specialist

Scene III. Dentist's office

Scene IV. Office of an eye, ear, nose and throat specialist

Scene V. Final visit to the family doctor

When the characters were decided on, the class gave each actor the children's written reports which pertained to the part to be taken and specific instructions concerning the information to be incorporated.

The players met and worked in natural groups: the family doctor and assistants; the dentist and assistant; the heart and lung specialist and nurse; Ann and her mother and a physical therapist. In conferences and individually, the children wrote questions for one another and formulated answers, trying to make their conversations "live." For a week the teacher met with the entire cast, with small groups and with individuals. What fun they had! Had there been an audience, it would have been as well entertained by the children's planning as by the play!

"He can't say that because it isn't exactly true."

"No real doctor would say that."

"Emily hasn't enough information. Emily, I remember there's a bulletin over there with our library materials that tells a lot about trichinosis. That would help you."

"That's a good idea—to have her underweight," said the "doctor," "then I can ask her what she's been eating, and Ruth can tell about a balanced diet."

Every day "Dr. Robles" (Arnold) visited the dentist's office, which is in the school building. The dentist lent charts and pictures and told Arnold they might borrow anything movable! The girl who was to be dental nurse in the play brought a set of false teeth with which to practice until the dentist secured a large demonstration set, and to say that these were brushed properly and thoroughly is marked understatement.

The teacher became worried about the daily visits to the dentist's office, because, after all, the job of the school dentist is to care for teeth, not to teach courses on dental technic and office management! But when she suggested as much to the children, she was promptly silenced.

"He said he was glad to help and that we are to come back any time!"

"He wants to come, and so does the nurse."

"She's going to lend me a uniform for the play."

When the time came to develop Arnold's part, it had to be cut. There just wasn't time for all of it. The other children and the teacher showed him what they thought could be used effectively.

"But that's only a tenth of what I found out! Look! I have five more pages." He was dreadfully disappointed and only partly reconciled when the teacher arranged for him to give a talk to the class concerning interesting new things he had learned which had to be omitted from the play.

The work of Arnold and his group is an example of the work of all groups. Nurses, family doctors, specialists were consulted. The pupils worked fascinated, recalling information recently learned, making comparisons, eliminating unessentials, challenging one another's accuracy, searching library books to find new information or to check on old. Not only did they get a review of the things they had learned, but they had an incentive for further study of important things not learned during the main part of the study. The children were delighted with the results.

To Contributors:—*The editor of the School and Health Department will be pleased to receive articles dealing with the actual solution of concrete and practical health education problems in the school. Contributions on general theory are not solicited. Articles must not exceed 1,000 words in length and must be typewritten double spaced. Stamps should accompany manuscripts to insure their return if rejected. All articles accepted will be paid for at regular rates. Address J. Mace Andress, editor of School and Health Department of* HYGEIA, *67 Clyde St., Newtonville, Mass.*

More and more we are coming to believe that the management of oneself is the supreme goal of life. Knowledge, habits and attitudes should all contribute to this aim, for if effective self management is lacking, little is left. Miss Mealey, director of Health Education, Division of Maternal and Child Health, Oregon State Board of Health, outlines how this sort of guidance is actually being carried on in a junior high school.

H. Armstrong Roberts

Social efficiency is one of the keynotes of this guidance program.

Guidance in Effective Living

By ETHEL MEALEY

EVERY ONE interested in child health is concerned with the individual from four interrelated points of view: (1) the individual himself, his personal efficiency, his organic efficiency, his strengths and weaknesses, his wants, interests, needs, problems, fears, worries; (2) the individual as a member of various groups, as family, "gang," club and school—his social efficiency; how he gets along with adults and peers; how he adjusts to different groups, and his regard and consideration for others; (3) the forces and factors in his environment which have influenced him; how he adjusts to the environment, and (4) physical and mental growth; growth to maturity in behavior and in emotional control.

In short, it is necessary to take the individual as he is, with his potentialities and limitations, in his total environment and help him help himself; help him to think, to plan and to do.

This can be accomplished through guidance. Knowledge of effective living cannot do it alone; providing opportunities for effective living cannot do it alone. Change, growth and maturity in behavior can only be brought about by means of knowledge, plus interest, plus opportunities to use knowledge.

The child has to meet his personal problems; he has to think and to plan and to do. This requires guidance on the part of others and participation on the part of the individual. Guidance involves direction or a goal and the coordinated efforts of the child, his parents and family, his teachers and any community agencies which may have an influence on him. This is essential in order to avoid conflict and tension and to make for strength, through united effort, in helping him attain high standards of effective living every day.

Furthermore, guidance is necessary because the pupil's behavior is motivated by certain definite fundamental wants and drives. He is going to do that which has value to him; what he wants to do. He wants success, attention, approval, recognition, satisfaction. He is interested in the "I." He needs to be guided in making choices and in meeting situations with satisfaction to himself and with regard for others. He needs guidance in controlling his conduct to meet standards set up by and for the group.

In the junior high school in Hastings-on-the-Hudson, N. Y., personal control, personal efficiency and social efficiency are the keynotes of the program for everyday living. In initiating the plan for effective living, the first procedure was to assemble all information about the pupils that was available in various offices and files in the junior high school. These data were found to be inadequate for the purpose, so the next step was to determine, through group meetings, what information was essential in planning for individual and group improvement in health and efficiency; then we needed to learn how this information might be secured and recorded for real use.

The consideration of these steps resulted in the preparation of a "Guide for Teacher Observation" and a record card, "A Cumulative, Interpretative Record for Planning an Individual Health Program." These provided definite means by which the teacher might know the child and be aware of his health problems. Before the pupil can be guided effectively, we must know something of the factors—such as his heredity, environment and conduct—influencing his health; his socio-economic background; his parents' attitudes toward health and health practices; his own health status; something of his interests and activities in school and out of school; his achievements and aptitudes. These data were obtained through such means as health examination, teacher observation, objective tests, home inventory, home visits and an analysis of the pupil's twenty-four hour day. They were recorded on the face of the cumulative card and provided the basis for the pupil-parent-counselor conference.

One important principle of mental hygiene is, "A healthy personality is an integrated personality." It is essential that an individual have a definite task, a plan and freedom to carry out the plan. We also frequently hear the admonition, "Face reality." We wanted to provide a means by which pupils would make a plan and carry it out, a plan that would provide opportunities for freedom, for self direction, for pupil responsibility, a plan by which the child could face without embarrassment any personal limitation or weakness or irremediable defect and find a way of using his strengths. We wanted to put challenge into living.

During the parent-pupil-counselor conference, the pupil himself fills in the reverse side of the cumulative card in answer to the question: What can I do to make myself better? There are spaces for writing down certain corrections which he thinks he can take care of himself and with the help of others; for health habits which he can improve; for personality adjustment—what he can do to have more friends; for participation in community protective measures—what he can do to observe public health regulations, such as control of communicable disease, immunization and safety.

By having the school and the home represented in the pupil-parent-counselor conference, two things are accomplished: The pupil makes his plans, and the school and the home likewise can make plans by which they may cooperate in carrying out his ideas. For instance, when we get the data assembled, we find such pictures as this:

Mary, who is 13 years of age, shows no increase in weight for more than a year. She has asthma and diseased tonsils. She was absent five days during a six weeks' period. She takes private tap dancing lessons, participates every day in tap dancing and roller skating, in addition to the regular physical education period, and attends movies twice a week. She has, on an average, eight hours of sleep. She is an active member of a Scout group. The teachers say she is good in her work but shows signs of fatigue. The parents were unaware of all this, until a conference brought it to their attention.

This is definitely a case for individual guidance. The following plan was worked out:

Provision was made through cooperative efforts of the home and school for Mary to ride to school in the school bus. Rest periods were arranged for her during study period and gymnasium period. Her schedule was changed so that one of the periods preceded the lunch period. Arrangements were made for asthma treatments. Plans were made by which she could go to a summer camp. She volunteered to give up tap dancing.

This is definitely an individualized plan. Yet from these individual problems and needs, it is possible to find the group problems. For instance, an analysis of the individual data of one group shows such interesting facts as the following:

The size of family ranges from four to fifteen members.

The homes vary in size from three rooms to fifteen rooms.

The families belong largely to the industrial and laboring groups.

No pupil has a room of his own.

No pupil has a family physician.

One hundred per cent have dental caries.

One hundred per cent have inadequate diet.

Eighty-two per cent of the fathers and mothers work.

Twenty-two per cent of the pupils are in families on relief.

Fifteen per cent do not have bathroom facilities.

Six per cent do not have electric lights.

Twenty per cent are ashamed of parents and relatives.

Fifty per cent have American-born parents.

Eighty per cent attend movies once a week.

Twenty per cent attend movies twice or more a week.

Seventy per cent do not belong to clubs or groups in school or out of school.

Ten per cent take music or dancing lessons.

One hundred per cent have radios in the home.

Eighty per cent worry about home work or school work and when they "make mistakes or fail."

Such data reveal not only definite group problems but also certain procedures which may be followed with a promise of success. One of the fundamental drives is the hunger for security. Promises do not give this security. It depends on the individual: how he meets his problems of living and the confidence with which he faces them. This confidence can only come from participation in meeting problems; from experiencing the thrill which comes from meeting a problem, planning a solution and seeing it through successfully. The pupil has the right to have the thrill of success in meeting his problems, in making himself better.

Living Healthfully in the Schoolroom

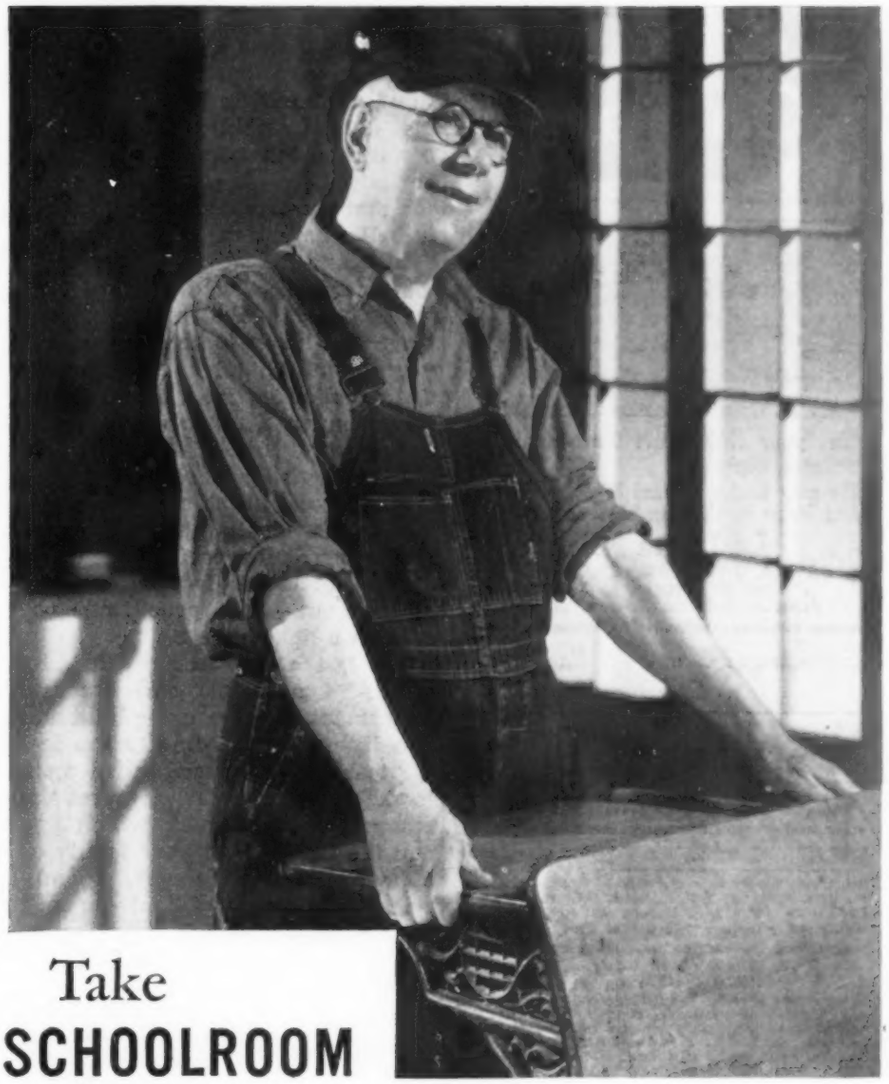
By JEAN V. LATIMER

Good teachers today are finding ingenious ways to get their pupils to practice hygienic living in the school environment. Miss Latimer of the Massachusetts Department of Public Health tells us more about wide-awake teachers who are alive to their opportunities.

AS health education begins to be regarded as living and learning, we see less artificial and formal teaching going on in the classroom. Interest is being shown in the awareness that health may be taught through many natural classroom situations and that the child's own social group is one of the best places for him to learn health by actually practicing health behavior.

What are some of these natural classroom situations concerning health which give children opportunity to learn by doing?

Just recently, a situation arose in a fifth grade in regard to caring for wraps and rubbers, especially during the winter months. Children had been careless in hanging up their coats and sometimes had even left parts of uneaten lunches in pockets. Noticing an odor in the cloakroom, the teacher talked this



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problem over with the group, asking them how they thought they could improve the situation. Margaret, a natural leader, said she felt that if responsibility were given to certain of the pupils to head up committees each week they could see that these coatrooms were kept in better condition.

A committee was also formed to take care of the drying of wet wraps during the months when there was likely to be snow on the playground or after heavy rains. This class had worked hard to show improvement through good housekeeping.

In my visits to schools I find much interest in the use of the light meter for evaluating the light available in particular parts of the classrooms. Following is a pupil's story of how one sixth grade made use of such a light meter:

"At last a way is provided, by means of a simple and accurate instrument, for measuring light and classifying it according to the seeing tasks that eyes are called upon to do. A light meter measures the amount of light under which you and the members of your family or class are using their eyes. It indicates the minimum of light you need for the various seeing tasks, just as a thermometer indicates healthful room temperature.

"We borrowed a light meter from our local light company to find out what were the actual conditions in our classroom. We learned that there were degrees of lighting which were necessary for the reading of normal print, for the reading of fine print or sewing, and for severe visual work for long periods.

"Diagrams of the amount of light found in the various parts of our classroom on both bright and dark days were made. We saw that it was necessary to change the seats of two children in Row 1 and also necessary on a dark day to put the lights on so that the entire class could see the blackboards. We found too that although we had good lighting, we were not always getting the full benefit from it because the janitor did not always dust the tops of the globes."

Comfortable seating in the classroom is another situation which offers the children a personal and concrete interest. A fifth grade teacher had her class make seat and desk adjustments as a part of a teaching unit on posture. Although the seats and desks are fixed at the correct height for the children just after the opening of school, it is often necessary to make another adjustment during the year—a situation which offers many teaching possibilities.

An informal discussion of the questions which the pupils asked showed that they knew very little about the standards for correct seat and desk adjustment. They sent to their state department of public health for suggestions along this line, and under the teacher's guidance, the pupils undertook to make several adjustments.

Faculty health councils are not limited by any means to high schools but are coming into being in the elementary field as well. A teacher in a large industrial city, appointed by the principal to be chairman of the health committee, recently reported that her group of teachers decided to increase the consumption of milk sold at school.

From March to May a record was kept. It was found at the end of this time that the milk consumption in school had increased 18 per cent. Without calling any attention to the fact, provision had been made for supplying milk free of charge to children of needy families.

Rest periods, especially for the younger children, are health activities not infrequently found in elementary classrooms. While there is some difference of opinion as to the desirability of resting on mats on the floor of the classroom, ingenious teachers are having their pupils rest at their desks by placing their heads on their arms in a relaxed position, often at the same time listening to soft recorded music. This would seem in line with the need for mental rest as well as physical relaxation.

One rural superintendent said that when these short rest periods during the school day were first started, one member of his school committee had "almost gone up in smoke" and said that he thought the children came to school to work and not to rest, that they could do that at home. "However," said this superintendent, "we have come a long way since then in convincing our community of the need of short rest periods during the school day."

The examples illustrate the fact that teachers are understanding more and more the psychology of health education: They are concerned with the total child in his entire school environment.

Where Do You Get Your Brains?

(Continued from page 995)

a family who gave all that a child could wish, while Ruth lived with a family continually faced with poverty. Consequently her personality was cramped, her mentality undeveloped, while Mildred was brighter, more spontaneous in adapting to new situations.

Fortunately, these investigators are able to tell us which traits are most easily altered by environment and which ones cling most stubbornly to the inherited pattern. Of the important groups of traits, personality and temperament are most easily changed. Educational achievements rank next, followed by intelligence. The traits most difficult to modify are in the physical group: size, body conformation, health and athletic ability. But even for this group, it is generally agreed that the way they live may greatly alter the course nature intended.

Another chapter of the heredity-environment problem gives a hint as to what would happen if a baby Juke were reared in a more respectable home. Harold M. Skeels, Ph.D., of the University of Iowa had worried because the infants from one of the state institutions were placed in foster homes without any consideration of the children's parentage or potential mentality. Is it fair, he asked, to release an illegitimate child of ignorant, poverty-stricken parents and expect the foster parents to make it one of their own kind?

Dr. Skeels answered this question by extensive tests of 147 children who had been in their new homes for one to five years, having been placed there before they were 6 months old. Surprised that most of the children showed rather high intelligence, he checked up with the I.Q.'s of the real mothers. For a representative group of the real mothers, the mean I.Q. was 83.8, while for the children it was 115.3! Although Skeels cautiously suggests that further work is necessary and that the children must be tested again when they are older, he cheerfully admits that his original fear about these children was unfounded.

And at the University of Toronto, Dr. Donald Snygg confirmed these findings by a study of 312 foster children placed by the Toronto Infants' Home. Here, too, the infants were born to parents in the lower strata of society and were placed in homes of higher culture. Comparing the I.Q.'s of the children with those of the true mothers, he says that the mothers of average intelligence produced the highest percentage of bright children. "While definitely subnormal mothers had a slightly higher percentage of dull children, the majority of their children had normal intelligence, and the percentage of superior children compared with that of other mothers." Dr. Snygg explains that knowledge of a mother's intelligence is of little value in predicting the intelligence of her child.

In contrast to these methods, Alice M. Leahy at the University of Minnesota compared 194 foster children with their foster parents. She then compared 194 similar children, living in their real homes, with their real parents. Finally assuming that in the foster group only environment tends to make the children similar to the parents, while in the other group both heredity and environment make them alike, she compared the gross differences between foster parents and children with the gross differences between real parents and children. Intelligence is very little changed by environment, she says, while personality is affected more by environment than by heredity.

Now what does this mean for parents, teachers and people generally who feel some responsibility for the race's welfare? It means, for one thing, that we need not excuse children's shortcomings in behavior by saying that they were "just born that way." The sulky, irritable child, the one who becomes a misfit in society, is probably a product of his environment. Even if that environment included Sunday School! For we must remember that human beings are not always positive in their reactions: hence the derelict that occasionally emerges from a minister's family or the altruistic soul that is born and reared within the Dead Ends of society.

Child psychologists and personality experts have yet to find a formula that will invariably tell what form plastic human material will take when shaped by its environment—which is just another way of admitting that heredity has some part in determining what the final form will be.

But from mass evidence we must admit that delinquency and achievement run in families not so much because of similar ancestry, but more because of similar environment. And parents who contemplate adopting an infant should concern themselves more with the life ahead of the child than with the lives behind. It appears that the expectations for an unknown orphan should be just as high as for a child of the parents' own blood.

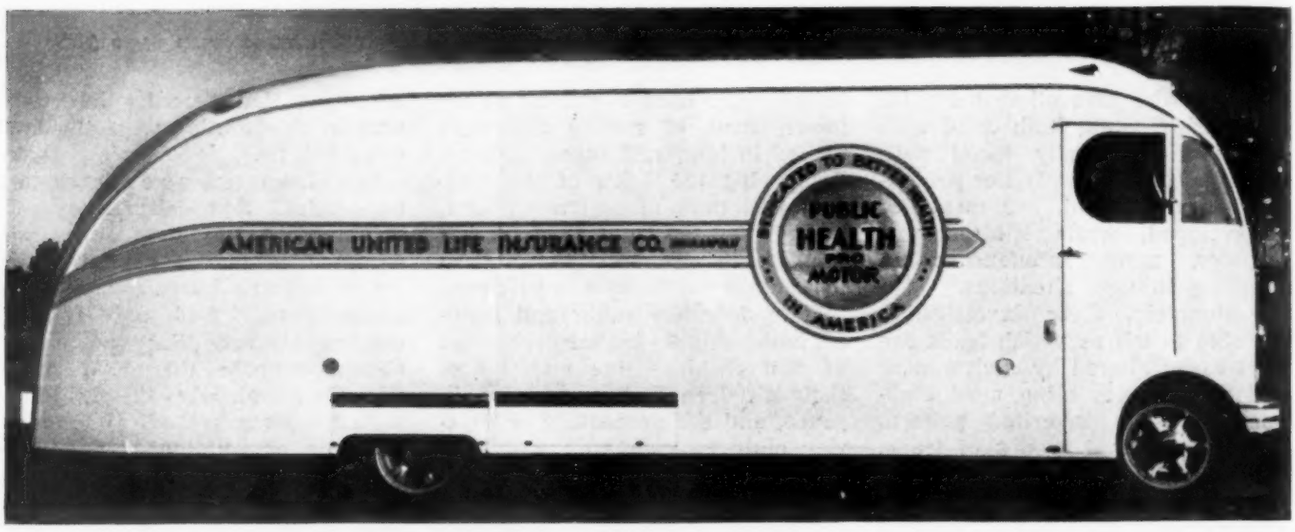
Although scientists may never be able to say dogmatically where we get our "brains," they can already give us a practical hint: If the orphans studied by Skeels and Snygg didn't get brains from their environment, they got something comfortingly like brains. They got effective intelligence! And when the Minnesota and twin studies agree that personality is largely a product of the environment, it appears that the behaviorists turned us in the right direction.

For the present, certainly, it is the most practical direction. While our control over environment is steadily increasing, men and women will persist for some time to marry according to their hearts' desires and not according to formula.

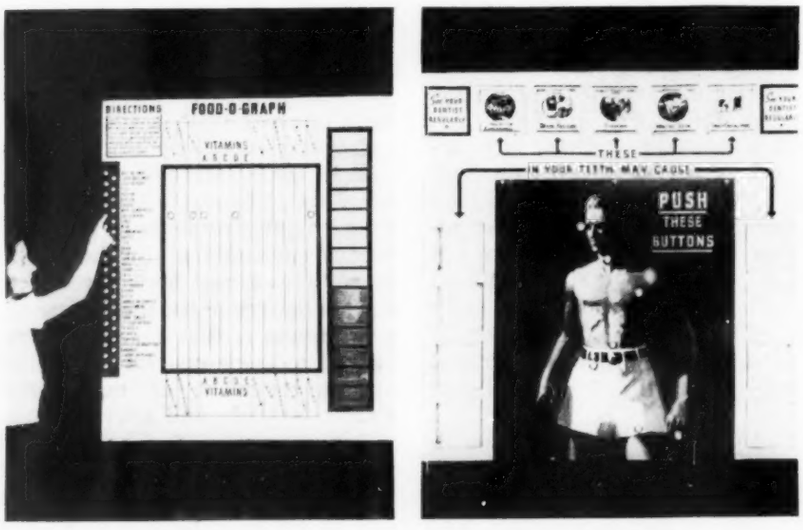
One of this country's overenthusiastic writers on eugenics has given credit for America's success in the international yacht races to a famous family of ship builders. He explains that for many generations this family has designed and constructed yachts and suggests that their unusual skill is inherited.

We can lose nothing by the search for a workable system of eugenics. The control of birth rate among families unable to provide a decent environment for their children offers a real hope for society. But the danger of too much eugenics propaganda is that we will depend on chromosome control rather than on improvement of our homes, streets, schools and movies.

Perhaps some day science will offer an effective method of race improvement through inheritance; but in the long meantime we cannot say that ignorance and crime are simply "in the blood" of man.



An audience of school children and bystanders enjoys the show after the truck has been converted into an open air theater.



Two exhibits in which the individual spectator is permitted to work out his own answers to the partially blank graphs and charts.

HEALTH EXHIBITS for SMALL TOWNS

AN EXHIBIT housed in a huge streamlined truck, complete with its own power plant and chairs and shelter for its viewers, has seen several months of service in the southern and midwestern states. It is called the "Public Health Pro-Motor," its object being to promote public health.

By a novel arrangement, the sides of the truck spring open, a tent is erected, chairs are placed, ramps are put up, and right before your eyes a truck turns into an open air theater capable of seating 150 people with plenty of standing room.

Every exhibit is built in such a manner that the individual spectator is permitted to work out his own answers, and each spectator must push a button or pull a lever before an exhibit will divulge its information.

At night the "Public Health Pro-Motor" presents motion pictures, film strips, lantern slides and demonstrations. These motion pictures spread the story of diphtheria immunization, tuberculosis control, cancer prevention and cure, home, highway and farm accident prevention, sanitation and many other health and safety lessons.

The Pro-Motor limits its showings almost exclusively to the smaller communities throughout the country and spends two or three days in each town. The Pro-Motor is sponsored by the American United Life Insurance Company as its contribution to the program of saving human lives.

Coming Articles

★ TEACH YOUR CHILD TO RELAX
Helpful hints for nap time are contributed by Alrena L. Welsh, who has proved their efficacy for her own children, four times over.

★ HORMONES: MAGIC REGULATORS OF THE BODY
What happens when the hormones misbehave is told in a fascinating article by Leona M. Bayer, M.D., who also discusses briefly the harnessing of hormones for medical use.

★ THE WEATHER AND YOUR HEALTH
The weather as a topic of conversation may be decidedly trite, but some interesting facts concerning its effect on our comfort and well-being are revealed in this article by Wm. A. Sommerfield, M.D.

★ ALSO:
Care of the Skin in Winter; Cancer Diagnosis; Adjustments in Marriage; Secrets from a Dixie Kitchen; Indian Hospital; Hollywood Husky.

It's *Smart* to Keep Healthy

Dashing young moderns know that health is their most precious asset. They may, at fashion's command, don bustle-back dresses and effect wasp-like waists, but never, never will they go back to physical frailty and fainting spells.

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If you are an educator engaged in health teaching work, you will find Hygeia almost indispensable. As one teacher expresses it, Hygeia "is worth while, authoritative and up to date. It is more readable and attractive than a text-book, and since a new issue comes out each month, it holds all the attractiveness of magazine reading."

If you are a parent, why not have Hygeia coming regularly to your home? Each issue provides something of interest for yourself as well as your offspring—sound advice on questions of daily health and hygiene such as exercise, diet, rest and recreation; child care and training; growing-up problems; marriage difficulties and maternal welfare; prevention and cure of disease. Use coupon for trial subscription.

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Medical News

OF THE MONTH

Farming Is a Dangerous Occupation

"Farming is an exceedingly dangerous occupation, the hazards of which are not universally appreciated," John H. Powers, Cooperstown, N. Y., declares in *The Journal* of the American Medical Association.

"Agricultural accidents were responsible for nearly one fourth of all serious injuries treated at a medium sized rural hospital in the central part of New York state during the years 1929-1938 inclusive," he says. "Routine chores were the most dangerous motivating activity, with logging and haying next in order of frequency. Falls were numerous. Males were involved with ten times the frequency of females. Fractures comprised one third of all injuries."

Many Beliefs About Insomnia Are Unfounded

Most of the currently believed calamitous consequences of insomnia or sleeplessness are unsupported by fact, Louis J. Karnosh, Cleveland, contends in *The Journal* of the American Medical Association. He says that insomnia not due to organic disease or physical pain does not sap a person's vitality, does not lead to insanity, does not affect the health of an individual, does not cause anemia or loss of weight and that it is doubtful whether insomnia in itself ever is the cause of death.

"Nearly one half of all persons with chronic insomnia (true inability to sleep) are psychoneurotic," he states. "This type of person not only wants to sleep—he wants oblivion. He entertains the naïve hope that after a night's good rest he may awake free from tension and depression, hoping that sleep will wash away the problems which he is unable to face and solve. The psychoneurotic person artfully presents his insomnia as a red herring across the path of the clinician's speculations to mislead him into believing that the trouble is a physical one that merits medical treatment.

"No one," the author explains, "can will himself to sleep; one merely allows sleep to intervene. The patient complaining of sleeplessness should be told about the phenomena of free association, during which the mind wanders and thoughts are without cohesion and regulation. Free association takes place between the time of retiring and of actually going to sleep. This mental rambling is an overture to sleep, in fact a half sleep wherein the higher cerebral functions which regulate logical and coherent thinking are at rest.

"Counting sheep, reading in bed and other mental gymnastics that require concerted thinking are merely tricks for the repression of unpleasant ideas and actually lead the person away from, rather than toward, sleep.

"The person with insomnia should be told to lie down, to let his muscles relax if he can, to let his thoughts wander where they will and to avoid the exercise of any sort of concentration or volition.

"From fifteen to twenty minutes in a tub of water which is just cool to the touch is recommended if it does not upset the patient. Hot baths and massage are of questionable value.

"Shallow, fitful sleep is often a natural condition compatible with the temperament and living habits of the individual patient and does not necessarily call for special attention or treatment."

Goiter Operation Risks Reduced to 1.7 Per Cent

Improvement in operating technic has brought about a reduction from 4.4 per cent before July 1933 to 1.7 per cent at present in the mortality rate among the approximately 700 operations for intrathoracic goiter performed at his clinic, Frank H. Lahey, Boston, reports in *The Journal* of the American Medical Association.

Unlike the ordinary kind of goiter which lies in the front of the neck and is easy to reach for an operation, the intrathoracic type is located low in the neck and grows down behind the breast bone or sternum, thus actually becoming located within the chest. This type of goiter interferes with breathing and may develop excessive glandular activity with the associated thyroid symptoms of rapid heart and loss of weight. Because of its location, the operation for removal of such goiters was difficult and hazardous until recently.

War and Disease

"The assembling of great masses of men under conditions in which sanitation is difficult, if not impossible, and the movement of great numbers of men across wide areas of country where they come in contact with new populations invariably mean the spread of disease," *The Journal* of the American Medical Association asserts.

"The louse that spreads typhus fever, the rats concerned with plague, and many another insect and animal carriers of disease still exist, ready to demonstrate, when the favorable opportunity comes, that man is but a morsel in the great cosmic scheme and that when he seeks to destroy himself nature stands cynically ready to assist him.

"In practically every war for which accurate records are available, disease has always caused more deaths than military maneuvers and engagements. Typhus, plague, cholera, typhoid, dysentery, pneumonia and influenza do more damage under military conditions than can be brought about by dynamite, torpedoes, gun powder and poison gas. As Dr. Hans Zinsser has said, 'Epidemics get the blame for defeat; generals the credit for victory. It ought to be the other way around.'

"In many a great war of the past, epidemic has come to terminate the conflict."

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